Published every Saturday by the Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa., with editorial and executive offices: 30 Church Street, New York, N. Y., and 105 West Adams Street, Chicago, Ill.

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The Railway Age is a member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulations (A. B. C.).

Subscriptions, including 52 regular weekly issues, and special daily editions published from time to time in New York, or in places other than New York, payable in advance and postage free. United States, U. S. possessions and Canada: 1 year, $6.00; 2 years, $10.00; foreign countries, not including daily editions: 1 year, $8.00; 2 years, $14.00.

Single copies, 25 cents each.

H. E. McCandless, Circulation Manager, 30 Church St., New York, N. Y.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

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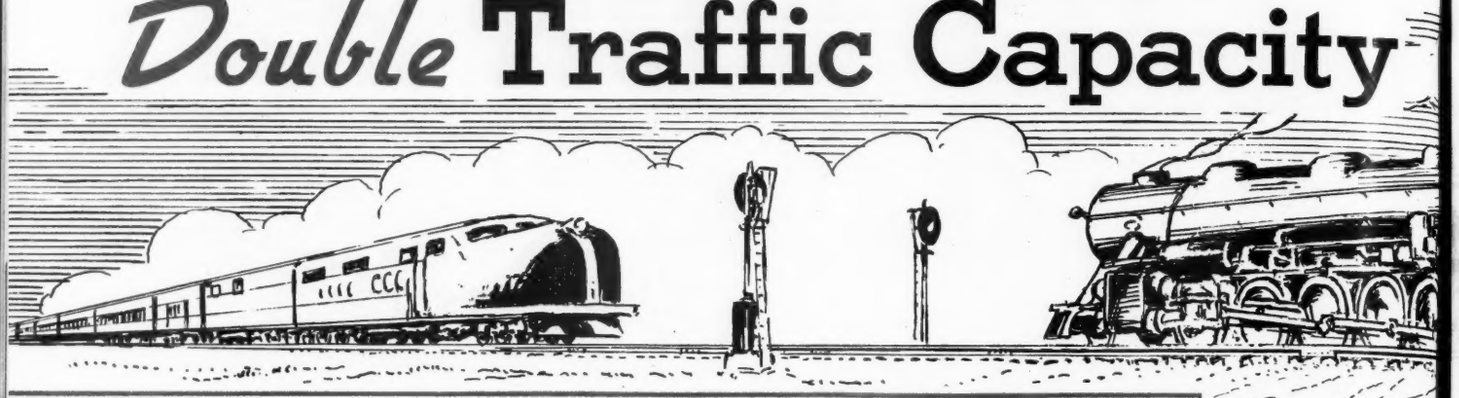

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The Momentous Decision In the Trainload Rate Case

The policy which the Interstate Commerce Commission has announced in its decision in the Blackstrap Molasses Case (*I. & S. Docket No. 4645, Molasses—New Orleans, La., to Peoria and Pekin, Ill.*) may prove to be a landmark in the effort being made to bring transportation out of an era of chaos and waste into a regime of reason and economy. This decision does not mean the mere winning for the railroads of a few thousand tons of traffic from a competitor. Indeed, the decision may not even give the business to the railroads, because the minimum rate set by the commission is one cent higher than the railroads asked for. But Chairman Eastman said in his concurring opinion: "I believe there are other situations where the economy of volume shipments, particularly if they are expanded to trainload dimensions, would be greater than that which the record indicates will be realized in this case."

Why Decision is in the Public Interest

With characteristic understatement, Mr. Eastman has in these words implied why the decision in this case is so important. There are scores, and perhaps even hundreds, of situations where the principles accepted by the Interstate Commerce Commission in it can be applied to restore traffic to the railroads. And the issue presented is far larger than the selfish interest of rival forms of transportation in winning business from each other. From the standpoint of the public interest, the question may be framed as follows: *When two or more rival agencies of transportation are contending for a given movement of goods, should or should not that agency with the lowest costs be permitted to use its cost advantage in underselling its rivals?* And "costs" in our question means *comparable costs.* To use an extreme example: If one carrier or class of carriers, in trying to get certain traffic, is allowed to make rates so low they will barely more than cover its out-of-pocket costs, should not a competing carrier or class of carriers, in trying to get the same traffic, also be allowed to make rates so low they will barely more than cover its out-of-pocket costs—without these rates affecting other rates made to meet entirely different conditions?

By its decision in the Blackstrap Molasses Case, the Commission apparently has given an affirmative answer to these crucial questions. That is, it seems to have held, in substance, that the railways, in making rates to meet the competition of other carriers, will not be required to consider all costs unless other carriers consider all costs in making their rates in trying to get the same traffic. If the answer had been in the negative, wasteful competition—i. e., competition of a kind to encourage the continued development of surplus transportation plant, and to promote the movement of goods by more costly rather than by less costly methods—would have been perpetuated. But the commission has cast its vote in favor of the lowest practicable total costs of transportation for the American people. If it will continue to cast its vote in accordance with this policy, not only will the railroads be given opportunity to recover a large volume of traffic which has uneconomically been diverted from them, but a *powerful force will be set in motion toward reducing the proportion of the national income which the American people are spending for transportation—hence giving them more of that income to spend for other things.*

Railway Costs Lower than Waterway Costs

The above declaration is a sweeping one, but we believe that what here follows will substantiate it. Details of this decision are given in an article elsewhere in this issue, but the essential facts are as follows: The Commercial Solvents Corporation has been barging a large proportion of its molasses from the New Orleans to the Peoria district at an out-of-pocket cost variously estimated at from below 12 cents to a little less than 17 cents per 100 lb. The Illinois Central, the Missouri Pacific, and associated railroads calculate that, if they can get the traffic in the large quantities in which it moves by barge, rather than in carload driblets, they can handle it at a cost of about 11.7 cents per hundred,

which figure the I. C. C. revises upward to about 12.3 cents. So the railways asked the Commission to let them make a rate of 14 cents on quantities of 38 carloads which they believed would attract the traffic back to the rails and show them a profit, according to their own figures, of 2.3 cents per 100 lb. The Commission has accepted the railroads' view of the case, excepting that it estimates their costs higher and requires them to make a rate of 15 cents instead of 14.

Superficially, it might be assumed that this is a "border-line" case where waterway and railway are of almost equal efficiency, and hence that it would not make much difference to the national wealth and income one way or the other whether the traffic moves by rail or by water. Such a view, however, would be grievously in error, because the estimate of waterway costs does not include any contribution to the tremendous expense to which the taxpayers are put to provide the rivers in navigable condition. The railroad figure of 12.3 cents per 100 lb. thus represents *total cost* (not including a profit), whereas the estimated water movement costs of from 12 to 17 cents per 100 lb. are not total costs, because they ignore that part of the costs borne by the taxpayers in providing a waterway.

Important Benefits to the Public

The economy of railroad transportation, as compared to that by inland waterway, is in this instance thus so overwhelming that total costs by rail are probably slightly lower than only partial costs by water. If the railroads can show this economy with respect to the movement of blackstrap molasses in quantity, it is reasonable to assume they can show similar economies in the bulk movement of many other commodities now moving on the Mississippi and other rivers. If they are permitted generally to make rates reflecting such economies, it appears evident that the following benefits to the *national income* will follow:

1. Shippers will save the difference between the present costs of barge movement and lower rates by rail. They will also enjoy savings from more rapid and reliable service and in the minimizing of their investment in storage facilities.

2. Taxpayers will save in the huge sums they are paying for construction and maintenance of inland waterways—almost the sole result of which is to provide extremely low transportation charges to large-quantity shippers.

3. Taxpayers will benefit further in that the added traffic on the railroads will bring larger railway incomes and hence more taxes from the railroads. That is to say, transportation will be diverted from an agency which yields no tax revenues to one which does.

4. Unit costs of movement by railway will be decreased as railway traffic increases—which will lessen the pressure toward high rates on "rail bound" traffic. That is, the proportion of their income which other rail patrons are required to pay for transportation will tend to be less if this bulk tonnage moves by rail than if it moves by water.

5. Possibly the most important effect of all on the national income may be the incentive which basing competitive rates on costs will give all carriers to keep down their costs, spurring them constantly on to the devising of new methods and equipment which will enable them to go out after business they do not now enjoy. And, of course, whatever economies are thus induced will be additions to the national income.

Significant Statements by the Commission

Wholly from the standpoint of the public interest, therefore, this decision of the I. C. C. may prove monumentally constructive. The benefits to the railroads and their employees are so obvious that we do not need to mention them. Furthermore, the indirect public benefits which may flow from the decision may in time exceed the direct. No one can predict with certainty what such results may be—yet courts, legislators, students of economics, railroad and industrial traffic managers can hardly fail to be impressed by the significance of such passages from the Commission's opinion as the following:

> In truck transportation, in addition to truckload and less-than-truck-load rates, there are so-called volume rates. In connection with the latter, there is no requirement as to the loading in a single truck.
>
> The barge lines generally publish and maintain rates applicable on cargo quantities on most of the quantities which they handle. Pipe lines publish quantity rates.
>
> The admonition [i. e., the "full vigor" clause] does not mean that the carriers by rail shall be required to maintain a rate that is too high for fear that through the change they may cut into the profits of carriers by water. [This is a quotation from a decision of the Supreme Court].
>
> Common carriers under regulation *should be allowed more leeway to meet the competition of a shipper or consignee transporting his own goods* than in meeting the competition of another carrier for hire.
>
> In the past the Commission was of the view that volume rates were unlawful, because they would tend to concentrate business in the hands of large concerns. . . . They [i. e., considerations of the interest of small producers] plainly cannot be used as a basis for such a finding here, *for the advantage in large shipments already exists,* [due to the practices of other carriers] and the situation in this respect will not be changed if the railroads, through rates on like shipments in volume, are able to obtain a larger share of the traffic. [This statement is from Commissioner Eastman's concurring opinion].

How Government-Aided Transportation Injures Small Shippers

Thus is notice served on small shippers that the "natural" advantage in transportation costs which their large competitors enjoy—which advantage the Commission took away from these large competitors, as long as the railroads had a transportation monopoly, by its refusal to permit multiple-car rates—has been *won back by these large shippers by the development of government-aided rival agencies of transportation.* Refusal to permit the railroads to make multiple-carload rates under such circumstances simply injures the railroads and dissipates national wealth and income, while afford-

ing no genuine protection whatsoever to the "little fellow." If the "little fellow" wants his protection restored, his recourse is to block the further development of tax-built transportation facilities, and to promote the enactment of a "commodities clause" which would compel his big competitors to retire from the transportation business as a side line. Are the "little fellows" big enough to understand this situation, and what they need to do to protect themselves from the big competitors who are more and more combining *private transportation* with their commercial business?

Meantime, another impressive addition has been made to the growing body of precedent for the establishment of competitive rates as between rival agencies of transportation on a basis of "what the traffic will bear" and their comparative costs. We believe that there is no alternative to this basis of rate-making, if the regulators are to do their duty in protecting the *public* interest in economical transportation. We further believe that such a basis of rate-making offers the opportunity of recovering much tonnage that has been diverted from the railroads, while it can divert *from*

Rail Rates and Shippers' Costs Not Identical

Rates charged on traffic which has abandoned the rails *for intrinsically more costly methods of transportation* have been, and still are, the principal concern of this series. But, in order to make rail transportation more attractive in price to shippers than rival forms of transport, *it is vital that the rail rate be not confused with transportation costs to the shipper.* Sometimes the two coincide, but more often they are far apart—and the railroad desirous of getting business back must realize that it is the shipper's total cost of using rail service (and not the railroad rate alone) that has got to be brought down lower than similar all-inclusive costs for rival service, if the railroad is to get the business.

There is an enormous range of traffic where there are important incidental inconveniences and costs to the shipper who might patronize the railroads—and lower rail rates alone may not bring back the the patronage of these shippers. Even if lower rates might recover this business, it still is a fact that the more the incidental costs and inconveniences are reduced, the less will the reduction in rail rates have to be.

Experienced merchandise shippers are authority for the statement that the present standard freight car is the source of many of these incidental costs and inconveniences to shippers; that the quality of ordinary railroad merchandise service is a limiting factor in the profitable sale of a wide variety of goods; and that such lacks in railroad service are an important reason why competitors get traffic even when, superficially, railway rates may appear attractive.

There is no great cause to criticize railroad handling of loss and damage claims, and much is being accomplished in freight claim prevention, but has enough been done to reduce the patrons' indirect and hidden costs, particularly in packing goods for rail shipment?

It is, of course, a fine thing for a railroad to pay a damage claim promptly—but that doesn't calm down the housewife who gets a new piece of furniture just in time for the visit of important guests and finds the mirror cracked and one handle gone. Money doesn't pay for such disasters, and the shipper whose customers are women would not likely quibble about a transportation charge if he could be protected against incidents which might lose him valued, but exacting, patrons. Women dominate at least 85 per cent of retail purchases and women's demands have revolutionized manufacturing, packing, and servicing practices, and forced new conditions throughout all industries which cater to retail trade.

It isn't a question of deciding whether the demands of the modern woman are reasonable or not. It is simply one of meeting them, or stepping aside for the competitor who will. This is the situation the railroads' merchandise shippers, actual and potential, are up against—and the transporter who gives this shipper the kind of service which enables him to hold and increase his customers is the one to whom he *must* give his traffic, or he soon won't have any traffic to give.

It is not contended here that railroad service is generally unsatisfactory—far from it. But important merchandise shippers insist that, on many kinds of goods, railroad service does not adequately meet the conditions of the market these shippers have to satisfy. And, in the makeshift effort to adapt railroad service to the demands of such markets, the shippers are forced to spend large sums on sturdy packaging.

We are not at liberty to disclose details, but it is a fact that several leading merchandise shippers, co-operating with railroad officers and railway equipment manufacturers, have been studying intensively the problem of freight car body and truck design to develop a car, designed new from the rail up, which will meet shippers' present-day requirements for safe and speedy operation with minimum shock to lading. A car believed to go a long way toward satisfying these conditions has been designed and is now being considered by the railroads.

Nor is this the only development along these lines. Readers of *Railway Age* are familiar with the significant innovations which the Union Pacific has already successfully introduced, the better to meet the needs of merchandise shippers. They likewise know about the recent studies and demonstrations of newly-developed high-speed freight trucks.

Improvements which can be made to reduce the incidental costs and inconvenience of railroad service are not, of course, limited to those here mentioned. The instances are cited just to indicate that it is not only the traffic department with a realistic, modernized rate structure which can restore lost traffic to the railroads—but that the operating and mechanical departments, and the railroad equipment industry, can also make their important contribution, and are doing so.

the railroads only that traffic in which there is little or no profit for them anyhow.

While not all our readers share our optimism with respect to the favorable effects which may flow from this basis of competitive rates, nevertheless the adoption of it now appears to be pretty much an accomplished fact. The realistic policy, therefore, would seem to be to explore the decision and its implications to the utmost to see how they may be applied in recovering traffic to the rails, and preventing further diversions to rivals. This practical approach is doubly advisable, because if there *are* any aspects of this policy which will tend to injure the railroads to their rivals' advantage, we can be certain that their rivals will lose no time in exploiting such advantages to the utmost.

A Transportation "Liberal" of the '80's

General Justo Rufino Barrios was a "piker." He was also a "Liberal." The people of the Republic of Gautemala called him the latter principally because he headed the Liberal Party, when they made him their president 60 years ago. He also deserves the appellation because he was on the lavish side with other people's money and liked to run things his own way. In fact, he proudly took the title of "President-Dictator."

General Justo Rufino Barrios decided in 1883 that Guatemala needed a railroad running from the Atlantic to the Pacific. The country already had one extending from the chief port to the capital city, and the foreign capital which built it was taking its time about making further ventures in that mountainous and expensive terrain. But the President-Dictator wanted a railroad for his predominantly Indian and half-breed population whether they could afford it or not. To this end he issued a decree for the construction of an intercoastal line, and, to pay for it, "passed" a law providing that every inhabitant whose income was not less than $8 per month should, for a period of ten years, contribute the sum of $4 per annum toward the construction of the road. Persons making such obligatory payments were to be considered "shareholders in the enterprise, with all the rights and privileges accruing from the amount of their subscriptions." It was expected that at least $400,000 a year could be raised in what the American press of 1883 called "a novel plan."

But America has seen a great many things since 1883 and General Barrios would no longer be considered a pioneer in public finance. Now our own country canalizes creeks, erects $40,000,000 municipal airports, and grid-irons the country with trunk highways, to pay for which the government gently relieves the population at large of a substantial portion of its income. The American people—like General Barrios' Indians—get their transportation facilities whether they want them or not, and pay for them in taxes, which they cannot escape, rather than in rates, which they could pay or not according to their desire for the service. Details vary, of course—our government does not issue stock certificates to its citizens in such public enterprises as the Warrior River Improvement and U. S. Highway Route No. 1, but it does allow each citizen (unless he falls in that proscript classification known as railroads) to operate his fleet of barges or motor trucks with only nominal payment or none at all for use of tax-built facilities—i. e., if he happens to be rich enough to own a fleet of barges or trucks.

Thus time marches on. General Justo Rufino Barrios was a piker!

This Must Sound Awful to the "Highway Users" and Other Such Public Spending Fans

"Private enterprise is the breadwinner of the national family. It pays all the taxes. Those taxes plus what the government borrows against future earnings of private enterprise are the only source of that absolutely necessary money for the relief of the unemployed, the needy and the aged. Private enterprise—and I am talking about the enterprise of the farmer and the worker and the business man—is the source of every job in the country except the jobs on the public pay roll. And those jobs, too, are supported by private enterprise. So, in the final analysis, every person on relief, every person on a pension, every job in America is supported by private enterprise. . . .

"Now, if the government takes a dollar from you and gives it to me, there is no additional purchasing power, no additional re-employment. You could have spent it. Now I spend it. That is all. It is the same dollar.

"If the government borrows a dollar from the banks and gives it to you, purchasing power is temporarily increased. But all that has really happened is that government on a grand scale has financed a kind of installment buying power which will ultimately have to be paid for out of actual income. It means in the long run a reduction of future purchasing power. . . .

"Begin to move toward actual economy and actual retrenchment, of unnecessary public expenditure. Stop raising hopes of a balanced budget one day, while advocating spending for its own sake the next day. Admit that excessive public expenditures have to be tapered off gradually. And start doing it. Start just a trend toward solvency. Start that trend and show it on the books of the government month by month. What we need is to be shown that the climb back up the hard road toward solvency has begun. Show it. . . ."

—From a speech by Tom Dewey, aspirant for the Republican Presidential Nomination.

Seaboard Adds New Cars to "Silver Meteor" Service

Two trains of seven and ten cars, with additional Diesel-electric locomotives provide daily service to Miami

WHEN the Seaboard Railway went on the winter schedule for the current Florida season on December 1, the Silver Meteor was supplemented by two new trains—one of seven cars and one of ten cars—and additional Diesel-electric motive power to provide every-day service between New York and Miami, Fla., and every third day service between New York and St. Petersburg, Fla. Last season the first Silver Meteor went into operation on February 2 and provided service every sixth day between New York and Miami and every sixth day between New York and St. Petersburg by making alternate round trips between the east and west coast points. On the new schedule this year, the running time has been reduced in accordance with the schedule shown in the table. The first Silver Meteor was described in the *Railway Age,* February 18, 1939, page 296.

Under the present method of operation seven-car trains, consisting of one baggage-chair car, three 60-passenger chair cars, one chair-tavern car, one 48-passenger dining car and one chair-observation-lounge car, are operated out of New York on daily Miami runs and, on every third day when the New York-St. Petersburg runs are made, two 60-passenger coaches and one dining car are added to the train making a total of 10 cars. The 10-car train is hauled by a two 2,000 hp. Diesel-electric locomotive between Washington, D. C., to Wildwood, Fla., where the train is split. Six cars and a diner continue to Miami with one 2,000-hp. locomotive while the remaining three cars—two coaches and one diner—are run, in conjunction with an additional standard combination coach-baggage car, to St. Petersburg. This four-car train is hauled by one 2,000-hp. locomotive. Between New York and Washington the trains are operated over the Pennsylvania electrified lines.

All of the 17 new cars which have been added to this service were built by the Edward G. Budd Manufacturing Company. Since last season, the Seaboard has acquired an additional nine 2,000-hp. locomotive units making a total of 19 locomotives of 2,000 hp. available for the Silver Meteor and Orange Blossom operation. All of the locomotives were built by the Electro-Motive Corporation, La Grange, Ill.

The popularity of the Silver Meteor is indicated by the fact that, for the December 22 and 23 weekend trips, there are over 2,000 unfilled reservations orders in spite of the operation of two additional standard coach trains for the Christmas holidays.

Typical of Budd-built equipment, these new cars are of stainless steel construction fabricated by the Shotweld process. The center sill is built up from stainless steel shapes drawn from ¼-in. and 3/16-in. material. The floor beams, stringers, and corrugated floor sheets are welded together and to the truss-type side frame. The

Weights of the New Seaboard Silver Meteor Cars

Coach-baggage-dormitory, lb.	106,850
60-passenger coach, lb.	103,680
Coach-tavern, lb.	108,340
48-passenger diner, lb.	115,750
Observation, lb.	101,830

One of the Four-Wheel Trucks

roof and skirt sheathing is corrugated high-tensile stainless steel and the sheathing below the belt rail is in fluted panels. The general structural details are similar to those of the original Silver Meteor cars.

The cars for the new trains, like the original Silver Meteor, are of the non-articulated type with four-wheel trucks having axles mounted in SKF roller bearings. The front truck of the baggage car and both trucks of the diners have 6-in. by 11-in. journals and all the rest of the car journals are 5½-in. by 10-in. The wheels are 36-in. rolled steel.

The cars are equipped with National tight-lock couplers and New York Air Brake Company's HSC brake equipment, with electric speed governor control. The air-conditioning equipment is the Frigidaire electro-mechanical type and the heating system is the Vapor type. The electrical equipment of each car consists of a General Electric 20-kw. body mounted generator driven by a Spicer drive with safety clutch; the Edison batteries are of 1,020-amp.-hr. capacity.

Interior Appointments and Decorations

The appointments of the tavern cars, observation lounges, and diners are complete in every detail for luxurious, modern travel. Reclining, fully-adjustable chairs in the "sleeper coaches"; interiors styled by well-known artists; lounge compartments as commodious as those of regular sleeping cars; deep divans in the public rooms; full soundproofing and air conditioning in every car—these are some of the features of the new trains.

The first car of the train, directly behind the locomotive, is a combination baggage and passenger coach, in which is also arranged comfortable quarters for a train crew of 15, and a steward's room with accommodations for two. The passenger compartment in the rear part of the car provides accommodations for 22 persons. The decorative scheme is in rich tones of gray and green. Walls of pearl gray blend into tones of dawn gray and gray green in the ceiling, while flashings of stainless steel and window sills of ebony black lend a contrasting touch. Upholstery in this car is in soft green. An automatic water cooler of modern design is placed at the forward end of the aisle. Toilet rooms for men and women are located in the after part of this car.

The Chair Car Bulkheads Are Decorated with Photo-Murals

The second car is a 60-passenger sleeper coach with its entire space, exclusive of the lounges, devoted to lounge chairs. Here, walls of pearl gray are blended with a ceiling of rose dust and cream gray, while coral tints are introduced for contrast in ceiling panels. As in the other cars of the train, stainless-steel flashings and ebony black window sills are incorporated into the decorative scheme, which is completed with upholstery of warm cedar hues. The women's lounge is finished in tones of light stone and sand, while warm grays set off the men's lounge section.

The third car is a combination coach-tavern, with reclining-back seat accommodations for 30 in the forward section, and a tavern and buffet-bar in the after section. The tavern, radio equipped, will seat 30 passengers and is strikingly arranged to give a pleasant informal at-

Comparative Schedules of the Silver Meteor

	Former Schedule	Present Schedule
Southbound		
New York to Miami:		
Mileage	1,389	1,389
Lv. New York	3:30 p. m.	3:30 p. m.
Ar. Miami	6:00 p. m. (next day)	4:30 p. m. (next day)
Total time	26 hr. 30 min.	25 hr.
Time saving	...	1 hr. 30 min.
New York to St. Petersburg:		
Mileage	1,247	1,247
Lv. New York	3:30 p. m.	3:30 p. m.
Ar. St. Petersburg	4:15 p. m. (next day)	3:20 p. m. (next day)
Total time	24 hr. 45 min.	23 hr. 50 min.
Time saving	...	55 min.
Northbound		
Miami to New York:		
Lv. Miami	9:05 a. m.	9:55 a. m.
Ar. New York	12:05 p. m. (next day)	10:55 a. m. (next day)
Total time	27 hr.	25 hr.
Time saving	...	2 hr.
St. Petersburg to New York:		
Lv. St. Petersburg	11:00 a. m.	11:00 a. m.
Ar. New York	12:05 p. m. (next day)	10:55 a. m. (next day)
Total time	25 hr. 5 min.	23 hr. 55 min.
Time saving	...	1 hr. 10 min.

mosphere. Two curved divans, facing the center of the car, provide intimate accommodations for groups or couples at small tables, while booths, each with room for two couples, are arranged at either end of the divans.

The tavern is finished in cheerful tones of cream and orchid gray with trimmings in raspberry, set off by upholstery in warm browns. In the coach compartment of this car, the color scheme is in delft blue, stone, and light sand, the whole being accented by the stainless steel flashings and ebony black sills.

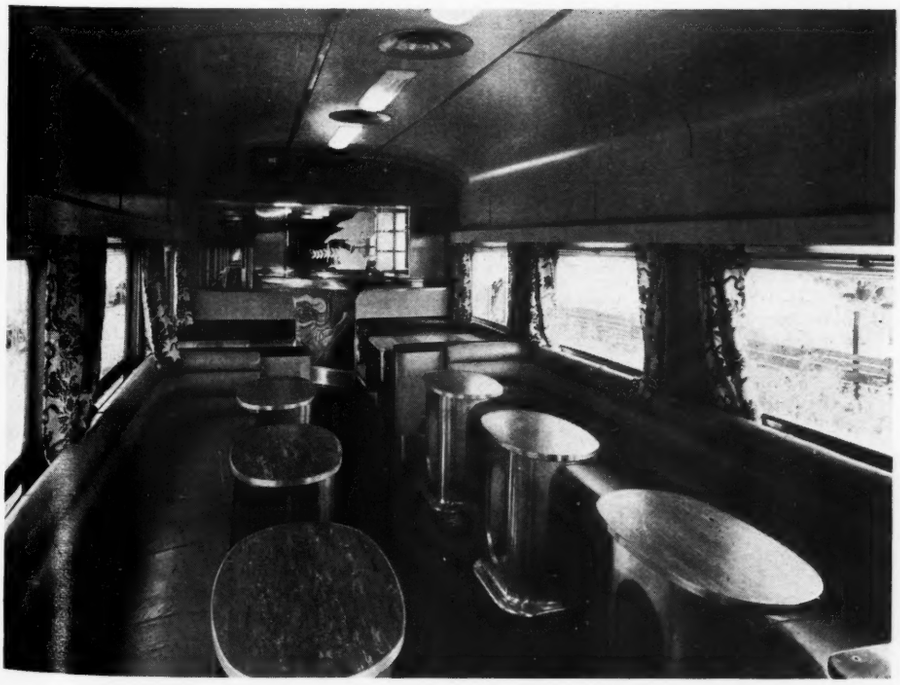
The dining car, with accommodations for 48 at tables seating four each is decorated with walls of old rose and white, blending with dark stone-grey tints in the ceiling. The dining chairs are upholstered in gray, and the buffet is finished in rich woods.

The kitchen is finished in stainless steel. It is completely equipped with refrigeration units, ranges, ample sinks, work tables, and storage space. A service door on the side of the car permits loading of supplies directly into the kitchen.

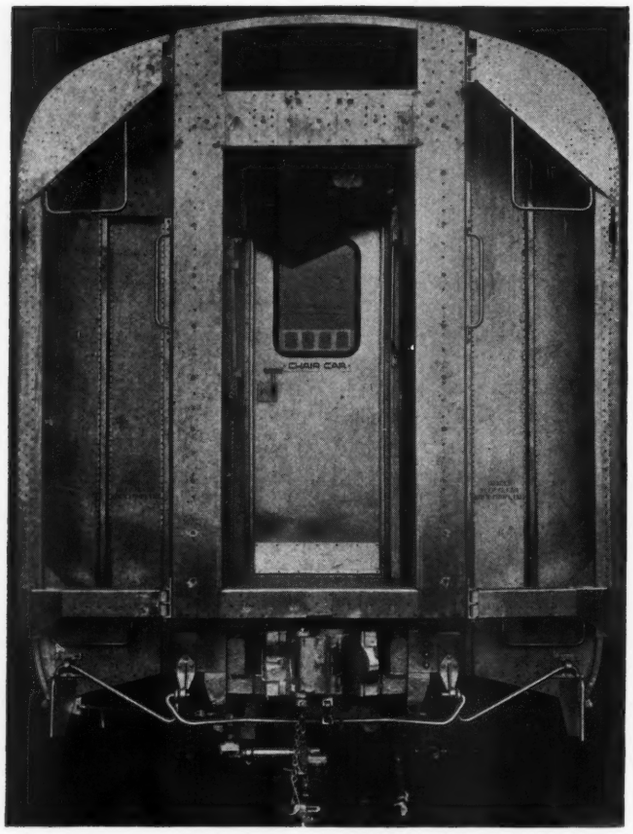
The fifth and sixth cars of the train are full 60 passenger sleeper-coaches, duplicates of car No. 2 except for the color scheme. In the fifth car, the walls are of flesh tan, the ceiling of flesh and dark sandstone with browned mauve trim, and upholstery of gray. In the sixth car, the upholstery is soft blue, walls are finished in sand, and ceiling in grayed blue and cream gray with sand trim.

The last car is a combination coach and observation lounge, with the observation section enclosed in the streamline rear end of the train. The coach sections, with accommodations for 48 passengers, has a color scheme of warm grays, with taupe, gray and cedar tints

The Interior of the 48-Passenger Dining Car Looking Toward the Buffet



Interior of the Tavern Section of the Combination Coach-Tavern Car



The End of One of the Chair Cars Showing the End Construction and Tight-Lock Couplers

in the upholstery. The observation lounge, which has chairs for 24 passengers, has broad windows which afford a full view of the country through which the train is passing. Radio, magazine racks, end tables, and a writing desk are furnished for the convenience of passengers. The ceiling of this section is finished in a two-tone effect of cream white and flesh pink; side walls are olive gray, and upholstery is in taupe and cedar.

Lighting Details

The chair cars are each lighted by incandescent units in the baggage racks over each seat, together with eight units in the ceiling. The ceiling units include blue night lights. Incandescent lighting is used in the women's and men's lounges, vestibules, and passageways.

The lighting in the chair section of the tavern car is similar to that in the chair cars. Fluorescent lighting is used in the tavern section. Four fixtures, each incorporating two 15-watt fluorescent tubes and one 6-watt incandescent blue night light, are used in the ceiling, and over each of the eight windows there is one 20-watt fluorescent unit. Fluorescent lighting is used over the bar and in the refrigerator. In the washroom, hostess room, vestibules, passageways and bar the lighting is of the incandescent type.

The dining car is lighted by fluorescent ceiling and window fixtures the same as those used in the tavern section. The kitchen and pantry lighting in the dining car is incandescent.

In the chair section of the observation car the lighting is the same as that in the 60-passenger chair cars. Both fluorescent and incandescent lighting is used in the observation section.

The 115-volt current for the fluorescent lighting is supplied by Safety 2-kva. motor alternators driven from direct-current power source.

Partial List of Materials and Equipment on the New Silver Meteor Cars of the Seaboard Railway

Frames and steel shapes	Welding Engineers, Inc., Philadelphia, Pa.
Steel shapes	By-Products Steel Co. (Lukens), Coatesville, Pa.
Aluminum sheets and shapes	Aluminum Co. of America, Pittsburgh, Pa.
Insulation	Johns-Manville Sales Corp., New York
Stainless steel	Allegheny-Ludlum Steel Corp., Pittsburgh, Pa.
	Eastern Rolling Mill Co., Bridgeport, Conn.
	Republic Steel Corp., Massillon, Ohio
	Superior Steel Corp., Pittsburgh, Pa.
Aluminum molding	Bohn Aluminum & Brass Corp., Detroit, Mich.
Molding	Dahlstrom Metallic Door Co., Jamestown, N. Y.
	United Specialties Co., Philadelphia, Pa.
Castings	Dodge Steel Co., Indianapolis, Ind.
	Treadwell Engineering Co., Easton, Pa.
Grab handles	Philadelphia Steel & Iron Co., Conshohocken, Pa.
Forgings and grab handles	J. G. Brill Co., Philadelphia, Pa.
Hinges	Homer D. Bronson Co., Beacon Falls, Conn.
Wheels and axles	Bethlehem Steel Co., Bethlehem, Pa.
Hand brakes	National Brake Co., Buffalo, N. Y.
Air brakes	New York Air Brake Co., New York
Clasp brakes	American Steel Foundries, Chicago
Trucks	General Steel Castings Corp., Eddystone, Pa.
Couplers	National Malleable and Steel Castings Co., Cleveland, Ohio
Bearings	SKF Industries, Philadelphia, Pa.
Side bearings	A. Stucki Co., Pittsburgh, Pa.
Wear plates	Manganese Steel Forge Co., Philadelphia, Pa.
Sash and step operating mechanism	O. M. Edwards Co., Inc., Syracuse, N. Y.
Everdur and stainless steel bolts and screws	W. H. Haskill Co., Philadelphia, Pa.
Filters	Air-Maze Corporation, Cleveland, Ohio
Grilles	Barber-Coleman, Rockford, Ill.
Air conditioning	Frigidaire Div., General Motors Corp., Dayton, Ohio
Air outlets	Anemostat Co., New York
Radio	Galvin Mfg. Co., Chicago
Electric fittings	The Pyle-National Company, Chicago
Panels and lighting fixtures	Safety Car Heating & Lighting Co., N. Y.
Fans	B. F. Sturtevant Co., Hyde Park, Boston, Mass.
Generators, controls and lighting accessories	General Electric Company, Schenectady, N. Y.
Batteries	Thomas A. Edison, Inc., West Orange, N. J.
Wire and cable	Anaconda Wire & Cable Co., New York
Copper tubings and fittings	American Radiator Co., New York
Plumbing supplies	Crane Co., Chicago
Hoppers	Duner Co., Chicago
Water coolers	Henry Giessel Co., Chicago
Heating control equipment	Fulton-Sylphon Co., Knoxville, Tenn.
Heating equipment	Vapor Car Heating Co., Inc., Chicago
Steam-heat flexible connections	Barco Manufacturing Co., Chicago
Steam-heat couplers	Gold Car Heating & Lighting Co., Brooklyn, N. Y.
Wovenstone	Union Asbestos & Rubber Co., Chicago
Plate duplex and solex glass	Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Sash	Hunter Sash Co., Inc., Flushing, L. I., N. Y.
Cork products	Armstrong Cork Co., Lancaster, Pa.
Formica table tops	Formica Insulation Co., Inc., Cincinnati, Ohio
Furniture	General Fireproofing Company, Youngstown, Ohio
	Heywood-Wakefield Co., Gardner, Mass.
Rotating and reclining seats	Coach & Car Equipment Co., Chicago
Upholstery material	Massachusetts Mohair Plush Co., Chicago
Window curtain material	The Pantasote Co., Inc., New York
Drape material	Bassett, McNab Co., Philadelphia, Pa.
Sponge rubber seats and mattresses	Dunlop Tire & Rubber Corp., Buffalo, N. Y.
Flooring and carpets	Chas. Stoumen & Son, Philadelphia, Pa.
Rubber pads, seats and backs of chairs	U. S. Rubber Co., New York
Rubber pads	L. H. Gilmer, Philadelphia, Pa.
Window sills	Monsanto Chemical Co., Springfield, Mass.
Kitchen equipment	Angelo Colonna, Philadelphia, Pa.
Drinking cup dispensers	Logan Drinking Cup Div., U. S. Envelope Co., Worcester, Mass.
Locks and hardware	H. S. Getty & Co., Inc., Philadelphia, Pa.
	Jas. L. Howard & Co., Hartford, Conn.
Locks	Yale & Towne Mfg. Co., Philadelphia, Pa.
Hardware	Dayton Mfg. Co., Dayton, Ohio
	Maddock & Co., Philadelphia, Pa.
Paint	Dolphin Paint & Varnish Co., Toledo, Ohio
	Murphy Varnish Co., Newark, N. J.
Fire extinguishers	Phister Mfg. Co., Cincinnati, Ohio
	Pyrene Mfg. Co., Newark, N. J.

What About Producers' Tie Stocks?

Some Roads Believe They Are Protected by Ample Tie Stocks

Do large accumulations of seasoned timber have adverse effect on railways' position in the market in future years?

WHAT are the practices of the railways with respect to the purchase of ties? How do these practices affect tie production? What is their effect on the prices the railways must pay for their ties? How do they affect the railways' ability to obtain ties normally and in emergencies? What is the immediate effect on the producer of large accumulations of dry ties, such as existed a few months ago, and what will be their future effect on the railways? These are not academic questions, for, since the railways provide the sole market for crossties, the practices which they follow in making their purchases cannot fail to have a profound influence on the tie producer and his operations and, obviously on the price he must get for the ties he produces.

Tie Production a Feast or a Famine

It is notorious that for many years crosstie purchases have been subject to extreme fluctuations. In part, this is a carry over from the days when all or most ties were inserted without preservative treatment, so that there was no special requirement for a seasoning period, and the railways maintained stocks only sufficient to meet their immediate needs. In part, this situation has also resulted from inability of the roads to forecast their earnings for any extended period. In other words, when earnings were good they bought ties, and when earnings were low they retired from the market.

Under these conditions tie production became either a feast or a famine and in many cases when the railways were buying freely and prices were rising, tie inspectors were encouraged to accept ties, largely regardless of grade or of defects that were not too obvious. There were two reasons for this; namely, it was often imperative that ties be obtained; and it was usually possible for the railway to obtain a better price if grading rules were not enforced too strictly.

This system, or rather lack of system, had significant effects on tie production, tie quality and tie prices. Under the conditions as they then existed the tie producer had no way of knowing when the railways would enter the market, since the railways themselves did not know. For this reason, he could not afford to accumulate a stock of ties in anticipation of a sudden demand, for he was always faced with the possibility that the ties might become unsalable before he could dispose of them. The result was that usually, when the railways did enter the market, the demand for ties far outstripped production. Two corollary results arose from this situation, the first being the acceptance of many inferior and defective ties; and the second, wide and violent fluctuations in prices. In other words, tie production and marketing were extremely chaotic, the railways were often unable to obtain ties that they needed badly, and cut-throat competition with respect to tie purchases was not uncommon.

Preservative Treatment Injects New Factors

As preservative treatment for crossties came more and more into vogue, certain factors were introduced that had a profound effect on crosstie production. The A. R. E. A. specifications for crossties have been adopted as standard by the majority of the roads and many of them have subscribed to adherence to these specifications, with the result that grading and quality have been greatly improved.

Again, while purchases continued to fluctuate, the necessity for an extended period of seasoning prior to treatment has made it possible for producers to take advantage of the lower prices that prevailed while the railways were out of the market and thus continue production at a more or less stabilized level, well below the former peak requirements. The stocks thus accumulated were stored and seasoned in advance of orders, and were thus available to meet the requirements of the railways when they again entered the market.

It is obvious, therefore, that for many years tie producers have provided a reservoir from which the rail-

ways have been able to draw quickly to meet sudden demands for ties, and to do this without creating marked fluctuations in prices. It is not debatable that this practice on the part of the producers has been of material advantage to the railways with respect to meeting their tie requirements, as well as to the stabilization of prices.

Tie Renewals at Low Ebb

While there was a general and more or less steady increase in the number of treated ties installed annually in the decade between 1909 and 1919, the application of treated ties increased by leaps and bounds from 1920 to 1929. Subsequent to the latter date, the renewal of ties fell off rapidly, reaching the lowest point on record in 1933 when only 37,000,000 ties were inserted in renewal and an almost negligible number were laid in new tracks. While tie consumption has increased somewhat since that date, it still remains at a level far below normal, partly by reason of deferred maintenance, partly as a consequence of restricted construction activities and partly because the railways are now reaping the benefits accruing from the large number of treated ties installed during the decade prior to 1930, most of which have not yet entered their first cycle of renewal.

Because of the time required for seasoning preparatory to treatment, in previous periods of restricted earnings the railways have returned to the market in time to take these stocks of ties out of the hands of the producers before deterioration set in. In recent years, however, the reduction in crosstie consumption has been so severe and the consequent period of subnormal tie purchases has been so long extended that the producers have been constantly in danger of being caught with a large accumulation of dry ties that require treatment if deterioration is to be avoided, and possible complete loss of these ties prevented.

Under the conditions that obtained formerly, this situation would have been of minor concern to the producers, for they could have treated the ties with reasonable assurance of being able to dispose of them when the railways were ready to buy. Today, however, the majority of the roads require that the ties be bored for spikes before they are given preservative treatment. This, too, would have little effect on the producer if the position of the spike holes were standardized. Yet, as it stands today, each road has its own standards for preboring, sometimes several for a single section of rail, and the variations in the standards are so great that it has become practically impossible for the producer to treat his stock of seasoned ties in advance of orders, for, obviously, he has no knowledge of what the boring requirements of his future customers will be, and he cannot obtain this information until an order is actually placed.

Situation Important for Railways

Although this is a problem of immediate and primary concern to the tie producers, in the final analysis it is of equal importance to the railways, since they must rely on the producers to fill their requirements for ties, and any situation that has an adverse effect on the tie-producing industry will affect their ability to obtain ties when they need them and the prices they must pay. It cannot be ignored that no manufacturer can long remain in business unless he is able to pass on to his customers all of his costs, including the normal losses that all business sustains. For this reason, it will be wise not to overlook the fact that unless the roads are willing to waive temporarily their requirements for boring or to accept a substitute for their present standards for preboring, the producers will always face the prospect of heavy losses from the ties thus produced when orders do not materialize. The alternative is that they will be forced to abandon production in advance of orders. To allow this to occur would be a calamity for the railways, for it is certain that, if such a change in present practices were to take place, tie production and tie prices would revert to their former chaos, since, with all or most of the roads in the market simultaneously, and with no stocks to draw from, the cut-throat competition of former days would be revived.

Another point that furnishes considerable food for thought in this connection is that, if production were compelled to wait on sales, the position of the roads with respect to obtaining ties would be far more difficult than it was during the former period. In the days before preservative treatment, while a seasoned tie was preferred to a green one, there was no bar to inserting a tie in the track as soon as it was made. Today ties must be seasoned prior to treatment, so that, depending on the kind of wood and location of the seasoning yard, an interval of from six months to one year must elapse after the ties are made before they can be treated. When the time required for manufacture, treatment and distribution is added, it requires from 1 to 1½ years after the order is placed before the ties are ready for use.

What the Railways Can Do

In view of the abnormally large stocks of ties that are likely to accumulate in the producers hands when the railways remain out of the market persistently, as they have done at times, of late, and the probable effect on the ability of the railways to obtain ties when and as needed in the future, if the producers are forced to suspend their operations during slack periods, undertaking to produce ties only when they have definite orders to fill, a number of chief engineers and engineers maintenance of way were invited to join in a study of the problem thus created, looking to a solution in the interest of the railways. The critical situation confronting the producers from time to time was outlined to them and they were asked to comment on certain suggestions that have been made with the view of meeting these recurring crises, and to make suggestions of their own as to practicable ways and means of relieving the situation. Thirty-six of these officers, who have occasion to buy ties in the open market and who represent 125,000 miles

Good Ties Require Close Inspection

of lines, responded, setting forth their views with respect to the various factors involved and to the practicability of the suggestions for relief measures.

They were asked to state how they buy their ties and whether a stock of treated ties in the producers hands would be of benefit to them. The information given shows the considerable variation that prevails in the practices with reference to the purchase of ties, even between adjacent roads. Eighteen of the roads participating in the study buy their ties from commercial tie producers. Two of these roads operate their own treating plants, while the others buy either from producers who are not treaters or from companies that are both producers and treaters. In the former case, as the ties are taken up they are sent to plants which treat for them under contract.

The remaining 18 roads buy all or most of their normal requirements from local tie producers, generally

It May Require from 1 to 1½ Years After a Tie Is Ordered Before it Can Be Inserted in Track

along their own lines. Only occasionally do some of them buy ties from commercial producing and treating companies, this being in the event that the local production does not keep pace with demand or they are caught with an insufficient number of seasoned ties to meet their immediate requirements, although some of them make a regular practice of supplementing an inadequate local supply in this manner. Five of the companies in this group operate their own treating plants and maintain their own seasoning yards. In general, the remainder ship the ties as they are taken up, to the plants that do the treating for them, where they are yarded and seasoned under their own supervision, although some of them buy their ties after they are seasoned.

Nineteen Favor a Reserve Stock

Inquiry was made, in view of the growing pressure for low railway inventories, whether these officers believed that it would be of value to them to know that a supply of treated ties is available in the hands of producers, from which they could draw in the event that demands arise suddenly. Nineteen officers replied that it would be of value to them to know that such a supply is available. A number gave unqualified approval to the suggestion, all of whom represented roads that rely on commercial tie-producing or treating companies for their supplies. At the other extreme, two officers said merely that it would be of interest to know that such a supply is available.

In general, the remainder of those who approved the suggestion qualified their answers in one way or another. One doubted the ability of the producers to make deliveries to meet emergency needs; several said that since they maintain a reasonable stock of ties at all times, it would be only under exceptionable circumstances that they would find it necessary to draw on outside supplies; while a few indicated a reluctance to use ties that had not received the approval of their inspectors prior to treatment, or ties that had not been treated under the supervision of their representatives.

Expressing approval of the suggestion, the chief engineer of an important eastern road having high standards of maintenance was of the opinion that "a supply of treated ties available in the hands of producers would not only be of benefit by making it possible to reduce inventories, but also to facilitate the purchase of ties when money is available. This," he continued, "would reduce the possibility, which is always before us, of incurring obligations in good times, which are apt to require payments when money is not readily available."

From a slightly different viewpoint, the chief engineer of a large western road that purchases its ties at the point of production, stated that he would "be glad to know that such a supply is available, provided it did not carry an obligation to purchase from these stocks unless the price and quality were more favorable than those under which ties could be purchased elsewhere." Approving the idea, but expressing some doubt as to the feasibility of the plan, the chief engineer of a large terminal railway that obtains all of its ties through commercial treating companies, said that he "would be in favor of the suggested plan provided we were sure that we could rely on adherence to a satisfactory specification on the part of the producers in creating such a supply."

It was the belief of the chief engineer of another large western road that ordinarily obtains its ties locally and treats them in its own plants, but which occasionally purchases ties from commercial companies, that "while we do not expect to be in the market for treated ties from producers, there is a decided advantage in knowing that a supply is available in case ties are required." "We buy our ties from commercial producers," was the comment of the chief engineer of a southern road, "and it would be an advantage to be able to purchase additional ties quickly when needed."

Illustrating the reluctance of certain officers to use ties over which they have not had control during manufacture, the chief engineer of a mid-western road said that "while it would be of value to us to know that we could obtain a supply of treated ties whenever required, we do not buy ties after treatment, and we would not favor the purchase of ties that we had not inspected before treatment." In the same vein, the chief engineer of an eastern road replied that "as treating companies rarely treat ties until decay becomes so conspicuous as to enforce treatment, it would also be of value to know the supply of seasoned ties available."

Some Give Qualified Approval

It will be noted that more than half of the officers discussing this point were in favor of the suggestion and that the majority of them gave their unqualified approval, although two or three exhibited some reluctance to accepting the idea of purchasing ties that had not received the approval of their own inspectors prior to treatment. Obviously, this is a detail that should

present no insurmountable obstacle if the railway and the producer are willing to sit down and prepare a workable arrangement that will cover this point in a way that will be satisfactory to both parties.

Expressing a belief that a supply of treated ties in the hands of the producers would be of no value to them, three officers gave no reasons for this point of view; one indicated an unwillingness to change his present practices with respect to the purchase of ties; and the remainder gave a variety of reasons for their viewpoints. Among the latter, two officers feared that such an arrangement would result in an increase in price, and one thought that there would be no benefit from a price standpoint; five admitted the same reluctance that has been mentioned, to the purchase of ties over which they have not exercised control during manufacture; while six advanced as their reason for seeing no value to their roads in the maintenance of a stock of treated ties by producers, their practice of maintaining a sufficient stock in their own seasoning yards to meet all probable requirements.

A Few Believe They Are Protected

Typical of those who can see no value in a stock of treated ties in the hands of producers, the engineer maintenance of way of an eastern road gave as his reason for this belief, so far as his road is concerned, the fact that it treats its ties in its own plant, adding that "we carry a sufficient stock of untreated ties to enable us to treat enough to cover any requirement, and we believe that our system will demonstrate a saving, compared with having tie stocks in the hands of producers to be available for use."

From the engineer maintenance of way of a western line that operates its own treating facilities but buys its ties from commercial producers, came a similar comment, that "we protect ourselves with respect to tie requirements, and since we prefer to season and treat our ties in our own plants, we would have no interest in a supply of treated ties that might be available in the hands of producers." From a somewhat divergent viewpoint, the chief engineer of a southern road expressed his attitude by saying that "under the conditions now existing in the crosstie trade, we would not care to purchase treated ties from a producer's stock. We prefer that our own timber men inspect and accept ties before treatment and that the treatment be supervised by our own treatment inspectors."

From a still different point of view, the engineer maintenance of way of a western road expressed the opinion that "there would be no substantial difference in the cost of ties, if the treated ties were to be held by the producer instead of the railways. The producer," he continued, "would be entitled to a carrying charge approximately equal to the cost to the railways for carrying an equivalent stock," and added that "emergencies require ties in such small numbers, compared with those normally in preparation (seasoning) for annual maintenance requirements, that these emergency requirements are easily cared for from the stock held for normal renewals."

It will be noted that none of the officers discussing this question condemned the idea as being inherently objectionable, but that those who believed that a stock of treated ties, as suggested, would be of no value to them, based this belief on the assertion that they are now fully protected by reason of maintaining large stocks of their own, primarily for seasoning preparatory to treatment, or indicated reluctance to accept ties that they had not inspected before treatment. Comment has already been made with respect to this latter objection. Those who expressed fear that such a plan would increase prices, gave no reasons for this fear, except that when purchasing is active it might be that prices would advance, but since this normally occurs in an active market, regardless of the magnitude of the stocks available, this does not seem to be a valid objection. On the other hand, large stocks usually tend to limit the advance in prices, and depleted stocks tend to raise them unduly.

Variations in the Punchings of Tie Plates Present a Real Obstacle to the Standardization of Tie Boring

What Is an Emergency?

It will also be noted that in commenting on this phase of the subject most of these officers interpreted the term emergency in its narrowest sense, that is, as applied to the demand for ties created by wrecks, floods or similar disasters. In the broader meaning, as it was used in presenting this phase of the problem for study, this term refers to the depletion of the railways' own stocks and the necessity for replenishing them quickly in order that they may keep their tie conditions at or above the minimum requirements for safe and economical operation. With this meaning in mind it is evident that some of the comments were not pertinent to the situation that has confronted more than one engineering officer in recent years, when they have been faced with the necessity for obtaining a large number of ties quickly for ordinary maintenance requirements.

If those officers who believe that they are fully protected by reason of the normal size of their own stocks are correct in their assumption, it is obvious that an outside stock of treated ties would be of no value to them. On the other hand, experience casts some doubt on the correctness of this belief in some cases. This doubt is strengthened by the fact that several of the officers whose roads maintain similar stocks of ties in preparation for treatment, said frankly that it is not uncommon for them to find it necessary to purchase ties in quantity outside of their own regular channels of supply, and that for this reason they were in favor of a supply from which they could draw quickly. It is further strengthened by the statement of some of the roads that feel assured of full protection under their present practices and which can see no value to them in such a supply, that they also find it necessary to overcome shortages by buying ties outside of their regular channels from time to time.

As an illustration of the value of a stock of dry ties in the hands of the producers to absorb the impact created by emergency requirements, one of the larger roads which ordinarily maintains a sufficient supply of ties to cover its normal needs, was confronted recently with the necessity for obtaining a million ties and for doing so quickly. To make up this shortage it invaded sources

of supply foreign to its own lines, bidding so liberally that other roads were forced to stand aside temporarily with respect to their own requirements until those emergency orders were filled. Yet it should be noted that, despite these large purchases, so fully did the current stocks of dry ties in the hands of the producers cushion the force of this sudden demand that there was no general advance in prices or general curtailment of the supply of ties available to other roads.

That this is not an isolated case is attested by the well-known fact that several other large roads are faced with recurring periods of acute distress. It is obvious that if roads as prominent as those under consideration, and which are possessed of alert engineering officers and of well-organized tie and timber departments, are caught in this manner, the problem of obtaining ties in emergencies is a very real one and that it cannot be dismissed with a gesture, or pushed aside as being of no interest that through no fault of their own, tie producers are caught occasionally with abnormal stocks of dry ties which cannot be disposed of before they become unfit for use, unless the railways are willing to co-operate with them in such a way that these stocks can be reduced to normal.

Standard Plan for Preboring?

Recognizing the advantages of preboring ties for spikes, not only to reduce damage to the wood fibre, but to protect the wood from decay by insuring penetration of the preservative around the spike hole, information was requested also concerning the present practices in boring, and whether the officers participating in this study favored the development of a standard plan for the boring of all ties or, as an alternative, such a standard for all ties for a given width of rail base, since the wide variation in boring standards today constitutes the principal obstacle to the treatment of ties in advance of sale.

It is of particular interest that of the 36 roads represented, only 6 do not prebore their treated ties. Of these, two explained that because of the multiplicity of rail sections in service on their lines, with approximately as many base widths, they had found it to be impracticable to prebore their ties, this being done in the field when the ties are applied. One of this group explained that his road is now passing through a transition period during which the main-track rail section is being changed and that an even heavier rail is in contemplation, for which reason preboring has been held in abeyance temporarily.

Wide differences of opinion exist with respect to a single standard for boring all ties or a similar standard for a given width of rail base. Six officers said flatly that they are not in favor of either alternative; five think well of the idea, but can see no possibility of working it out; eight express themselves as being in favor of such a plan; and the remainder, while favoring the proposal, foresee difficulties in composing the differences in such a way that this objective can be attained.

Among those who favored the proposal, the engineer maintenance of way of a western road said, "I favor the development of a standard plan for boring ties, which will require the minimum number of templates. It is entirely practicable to bore any one tie for two rail-base widths. A standard that would accommodate 112 and 131-lb. rail would be very desirable from the tie-production standpoint, because it would enable producers to stock up in advance of specific orders and, in this way, would relieve the peak demands for ties. I would not favor a standard, however, that contemplated the use of such ties under all sections of rail, for this would presuppose the driving of the spikes outside of the prebored holes for many of the lighter rail sections." A similar comment from an eastern road was that "we would look with favor on a standard plan for boring all ties for a given base of rail, but we do not believe that it would be practicable to bore all ties to a single standard."

Typical of those who recognize the advantages in a standard for boring, but who see difficulties in getting an agreement, the engineer maintenance of way of another western road agreed that "such a plan would be advantageous, but its development would be practically impossible by reason of the many designs of punching in tie plates, and the fact that released tie plates are reused. It would not be difficult if new plates only were considered, but the plates now in the track must be continued in service as long as they are fit for use."

In somewhat the same vein the engineer maintenance of way of a southern road made the comment that "there is no doubt that the suggested plan for a standard boring would be of benefit to both the railways and the producers, but since so many rail sections with differing base widths are in general use, and since the life of the rail is so much greater than that of the ties, it seems that it will require some years before this plan can be of real practical value. However, the biggest obstacle in the development of such a plan will be to persuade the railways to agree on a standard."

A Boring and Adzing Plant—Variations in Location of Spike Holes Now Make it Impossible to Treat Ties Before Orders Are Placed

Obstacles to a Single Standard

Speaking for those who rejected the idea of a standard boring, the engineer maintenance of way of an eastern road said specifically that "We could not look with favor on any standard plan for boring that did not fit our present boring, as we have millions of ties in the track that are prebored to our present standard. This is a more serious problem for us than for some other roads, since we bore for lag screws as well as for cut spikes. Possibly a standard boring could be developed for the cut spikes holding the rail. Then when such bored ties have to be purchased outside of the regular channels, the lag-screw holes can be bored in the field and treated with a hole treater."

It can readily be understood why the development of a single standard of boring that will fit all sections of rail is scarcely practicable, when one considers that 69 weights and more than 400 different sections of rail, with bases varying in width from 3½ in. to 6¾ in.,

still remain in the main tracks of the Class I railways. Although the number of variations in the base width is considerably less than the number of sections, these variations are numerous enough and the range is wide enough to make it impracticable to devise a single standard for boring that will fit all of them. On the other hand, all but a few of these rail sections are obsolete and some of them are disappearing year by year as heavier rail becomes available through release from more important tracks.

Furthermore, it must be borne in mind that the number of sections of new rail being laid today is far more limited than it was even as recently as 10 years ago, and that the mileage of these fewer sections is being increased year by year. Again, as mentioned, through a process of natural evolution, as the mileage of heavier rail is extended, more and more of the obsolete sections are being retired, thus reducing still further the number of base widths. It was shown by one of the officers participating in this study that it is entirely feasible to bore ties in such a way that they can be used with two widths of rail base, and since practically no roads attempt to bore their ties for all of the obsolete sections they have in service, the problem of arriving at a standard for a limited number of templates does not appear to be incapable of solution, provided the railways will exhibit a sincere desire to work out such a solution.

Tie Boring Now Chaotic

Certainly the situation with respect to boring ties could not be more chaotic than it is at present. As an indication of this confusion, a study of tie-plate design made recently disclosed that during a period of 20 years one mill had rolled 230 different sections of tie plates, to which 2,054 different punchings had been applied, an average of 9 punchings to each design; while during the same 20-year period, at another mill the combinations of tie-plate designs and punchings had aggregated more than 5,000, or an average of more than 250 a year. Other mills have had a similar experience and, amazing as it may seem, instead of improving, the situation is constantly growing worse, for new arrangements for the spike holes are being required constantly. In fact, not long ago, one road placed an order for a single design of tie plate for which it specified 12 different punchings; and another road changed the design of its tie plates for a single section of rail every year for five years, changing the location of the spike holes for each design of plate.

Obviously, these tie plates will remain in the track as long as they are serviceable and will continue to complicate the tie-boring situation until they are retired. Yet, it seems unreasonable to complicate it still further by adding to the number of templates year by year, especially as no one has yet discovered any benefits from shifting a spike hole 1/32, 1/16 or even 1/8 in. along the rail from its former position. It would be more sensible to abandon this individualism in design, and by cooperative effort work out a standard for boring for the few sections of rail that are being laid almost universally. While this would not effect an immediate improvement, if it is done, as more and more of this rail is laid, the number of ties to be bored to this standard will increase year by year and, as the older rail and tie plates are retired, the number of templates will be reduced accordingly.

Nothing can be accomplished by emphasizing the difficulties of developing such a standard. On the other hand, nothing will be lost by making an effort to bring measurable simplification out of the chaos that now exists, or by a sincere attempt to prepare a standard that will be workable on all roads. If the sentiments expressed by the officers participating in this study represent the ideas of all railway officers, and it is fair to assume that they do, the preponderance of opinion is in favor of such standardization.

Value of Preboring

Among the subjects given study was that of the value of preboring ties, from the standpoint of increasing the thoroughness of the penetration of the preservative into the portion of the tie surrounding the spikes. Assuming that it is impracticable to expect an immediate agreement with respect to a standard plan for boring, consideration was also given to boring holes at locations other than those required for spikes, say, under the rail, provided penetration were assured, either as a temporary measure or as a permanent practice. The response was practically unanimous that preboring is of high value from the standpoint of increasing the penetration of the preservative at the point most seriously open to the attack of decay-producing organisms, although two officers advanced the opinion that preboring is of greater value in that it prevents destruction of the wood fibres surrounding the spike, and that the penetration of the preservative merely represents added, although real, value.

Opinion was somewhat divided with respect to boring holes elsewhere than for the spikes, 5 officers favoring the proposal conditionally, 3 believing it might have merit as a temporary measure, 4 looking upon the proposition as questionable and 23 expressing disapproval. "While there is no question as to the value of preboring in providing added penetration around the spike holes," said the chief engineer of a midwestern road, "I have no data to determine the extent of this penetration, but if it were assured through the boring of holes, an additional hole under the center of the rail might be desirable, not only to secure the desired penetration, but to increase the drainage from the top of the tie at the point where it generally fails first." Likewise the chief engineer of a terminal railway agreed that preboring does increase penetration. He said that "if such holes were not bored too close to where the spikes are to be inserted, I do not see that any damage would be done. I think this would be of value where the preboring for spikes could not be done."

Among those who looked upon the proposal as questionable, the chief engineer of an eastern road believed that "if penetration could be assured by the use of holes other than those intended for spikes, to treat the wood fully in the vicinity of the rail base, it might be possible to avoid preboring and have the holes bored in the field. Then the ties could be used regardless of the punching of the tie plates." He added, however, that "I question whether this could be done by reason of the effect it might have on the strength of the tie." Only a slightly different comment was made by the engineer maintenance of way of a southern road, who said that "we have made an extended investigation of the penetration of the preservative around prebored holes and have reached the conclusion that from this standpoint the practice of preboring is well worth while. However, the plan for boring holes elsewhere, except for draining water from the tie-plate area, seems to be questionable, and many of our maintenance officers maintain that the damage to the wood structure will more than offset the benefit received from the improved penetration."

Voicing the opinion of those who regard the proposal favorably as a temporary measure only, the engineer

maintenance of way of a midwestern road expressed no doubt as to the value of preboring "because it increases penetration of the preservative, tends to improve spiking and lessens damage to the wood fibres, but," he added, "I would not regard the proposal to prebore elsewhere than at the spike holes with favor, except as a temporary measure to be resorted to only in the event of a scarcity of ties."

Assured through experience of the value of preboring, the engineer maintenance of way of another western road stated that "the boring of ties for spikes adds greatly to the thoroughness of treatment exactly where thorough treatment is needed." His comment with respect to boring elsewhere than at the spike holes was that, "if no plan can be worked out ahead of time to fit the spiking, I believe that the cost of boring under the rail base to assure thorough treatment at that location would be justified."

Other Measures for Relief

All of the officers who participated in the study were asked to suggest other measures that would warrant producers in maintaining production, in part at least, during periods of restricted railway buying, and accumulating and treating these ties awaiting sale to their own or other railways. A few of these officers admitted that they had no constructive suggestions in mind, several saying that this is a question for the producer to consider; a few were not familiar enough with the conditions surrounding tie production to enable them to discuss this phase of the problem; and two or three thought that the situation might be improved through negotiations between the producers and the roads they serve. A number of those who did not offer suggestions expressed themselves as being deeply interested in a solution of the problem.

Among those who made suggestions, three advocated a central inspection bureau under either the A. R. E. A. or the A. A. R., which would guarantee the quality of the ties, that the seasoning was done properly and that the treatment had been given at the right time and in accordance with definite specifications. Another suggestion was that the ties be produced on a "lay-away" basis, that is, that a certain number of ties, less than probable requirements, be produced and treated under the supervision of individual roads which are normally clients of the producer, and that these roads advance part payment; full payment to be made upon delivery. In this way, deliveries would not be accepted until the road, or roads, was in the market; yet the full burden of the carrying charges would not rest on the producer.

"It is essential that ties be treated when properly seasoned; holding them beyond this point results in deterioration," said the engineer maintenance of way of a western road, adding that "one method that might be followed to prevent this would be to give the ties a preliminary treatment when properly seasoned, which would guard against deterioration, thus making it possible to carry them safely for a considerable time. Then when they are sold, the ties could be adzed and bored and given a thorough treatment. Doubtless this would increase the cost somewhat, but it might be justified to enable producers to maintain production and thus insure that ties will be available when wanted, at the same time relieving the railways of the necessity of carrying a large tie inventory." As an alternative, this officer also suggested the possibility of an understanding between the railway and the producer with respect to a "lay-away" arrangement.

Also suggesting the possibility of giving the ties a light treatment to permit them to be held without deterioration, another chief engineer added the comment that while this action might not be a complete cure for the situation that now confronts both the railways and the producers, it would tend to relieve the situation, "but it would need to be limited to ties which some reputable inspector had examined and classified, since it is difficult to detect defects after a tie has been given even a light treatment. Unless ties were subject to inspection prior to receiving the partial treatment, I think many roads would hesitate to buy them."

A further suggestion was that the roads agree to conform to the A. R. E. A. specifications for ties and that they work out a standard specification for preservative treatment, so that there would not be the wide differences in the tie, and treating requirements that now face the commercial producing and treating companies and cause so much confusion in the industry. Most of those who offered suggestions, however, favored the application of a light treatment at the end of the seasoning period to permit storage with safety until orders are received.

Obviously, if all of the railways had the same requirements for ties, for the location of the prebored holes for each width of rail base and for preservative treatment, the producers' problem would be greatly simplified. The fact remains, however, that despite general acceptance of the A. R. E. A. specifications for ties, there are still wide differences in all requirements for ties and their treatment.

Something Must Be Done

As has been emphasized repeatedly in this discussion, an undue accumulation of dry ties in the producers' hands creates a critical situation in the tie-producing industry. While these recurring situations are of immediate concern to the industry, in the long view they are no less critical for the railways. It is to their interest, equally with that of the industry, to get these situations cleared up quickly, before the industry suffers such losses that it will be compelled to suspend production during slack periods, thus placing a severe handicap on the ability of the railways to obtain ties when they do enter the market.

Ways in which this critical situation can be cleared up without detriment to the roads have been discussed in detail. The officers who participated in the study recognized the seriousness of the situation and its probable effect on their own activities, and most of them expressed themselves directly or by implication as being in favor of action that will prevent these abnormal accumulations of dry ties, and at the same time permit the industry to continue its present system of production. Obviously, however, none of them committed themselves to any particular line of action, and some of them implied that the initiative should come from the producers.

While the adoption of a standard for boring ties cannot be consummated without extended consideration, no other suggestion has been made that will be so likely to prevent recurrence of these critical situations, or be of equal benefit with respect to tie production and marketing and, therefore, to the railways. Another suggestion, only a little less important, is that uniform requirements for tie treatment be adopted. This should be less difficult to work out than standards for boring, for much of the ground work has already been done by the American Railway Engineering Association and the American Wood-Preservers' Association. These are matters in which the railways should take the initiative.

These are matters, however, that will require an ex-

(*Continued on page 971*)

East Coast Florida Resorts Served by Two New Trains

The Atlantic Coast Line "Champion" and the Florida East Coast "Henry M. Flagler" latest additions to streamline Diesel powered equipment

ON December 1 the Atlantic Coast Line Champion, a new seven-car streamline, Diesel-powered train, made the first of its daily winter-schedule trips from New York to Miami, Fla., and on December 2, the Florida East Coast Henry M. Flagler, a similar type train, made its initial bow to the public. The Champion operates over the F.E.C. line between Jacksonville, Fla., and Miami. The Henry M. Flagler makes daily trips between Jacksonville and Miami, making 16 stops at east coast winter resorts between these two points. This joint service involves the use of four new seven-car trains, two owned by A.C.L. and two by the F.E.C. Three of the trains cover the Champion runs and the fourth operates as the Henry M. Flagler.

All of the four trains, in general structural design, are alike and consist of one combination mail and coach;

The A. C. L. Champion is Hauled by a 2,000-Hp. Diesel-Electric Locomotive

three 60-passenger coaches; one diner; one 52-passenger coach, and a tavern-lounge-observation car.

The 28 cars comprising the new equipment were all built by the Edward G. Budd Company and are typical of the stainless steel Shotweld construction of Budd cars. All car units are non-articulated with four-wheel trucks, 36-in. rolled-steel wheels, Hyatt roller-bearing journals, National tight-lock couplers and Westinghouse HSC brake equipment with electric speed-governor control. The cars are equipped with Safety steam-ejector air conditioning, Safety 10-kw. body-mounted generators driven by flat belts, Exide 1,000 amp.-hr. batteries and the Vapor heating system.

Weights of Atlantic Coast Line and Florida Coast Cars

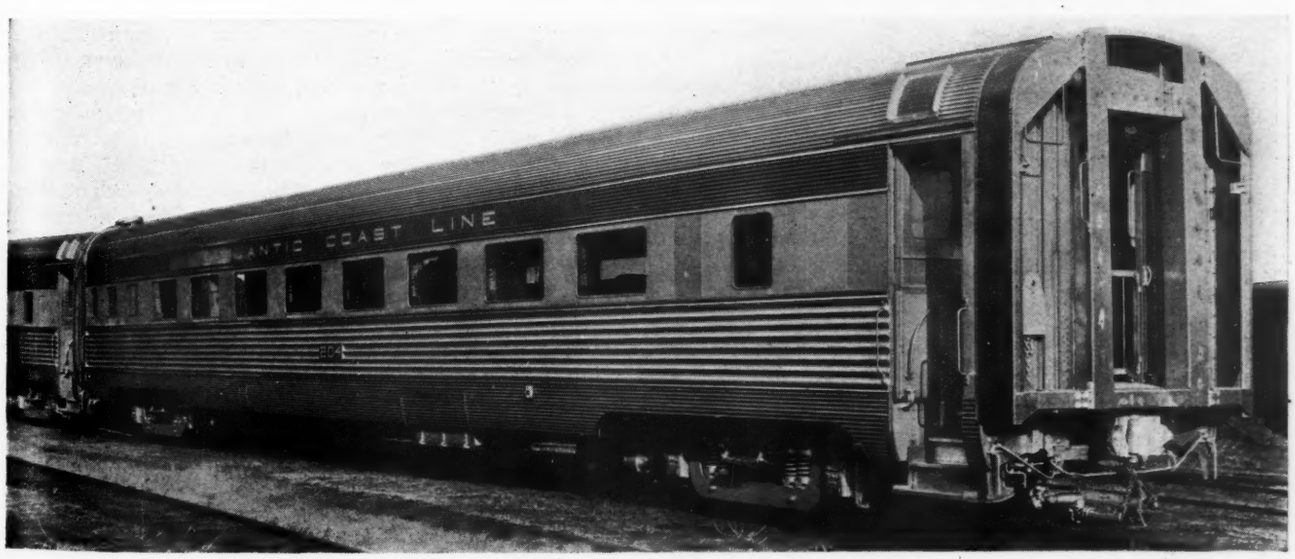
Coach-dormitory-baggage (with water tanks), lb.	107,505
Coach-dormitory-baggage (without tanks), lb.	106,200
60-passenger coach, lb.	105,750
52-passenger hostess car, lb.	106,810
48-passenger diner, lb.	113,800
Tavern-observation-lounge, lb.	105,895

The four new Diesel-electric locomotives are of 2,000-hp. capacity, built by the Electro-Motive Corporation. Each locomotive is powered by two 1,000-hp., 12-cylinder General Motors Diesel engines with 600-volt d.c. generators and 450-hp. traction motors. Two of the locomotives are owned by the A.C.L. and two by the Florida East Coast.

Interior Appointments of the A. C. L. Champion

The first car of each train, directly behind the locomotive, is a combination mail-storage and passenger car, in which also are provided comfortable quarters for a train crew of 12 and a compartment for the steward. The passenger compartment, in the rear part of the car, is of modern sleeper-coach type and furnishes accommodations for 22 persons. The decorative scheme is in tones of blue and tan. Walls of dark blue blend into the rose tan ceiling, into which two light blue ceiling stripes have been blended. These two stripes are in reality the air conditioning diffusers. Upholstery in this car repeats the same motif, while ebony black window

The Interior of the Observation-Lounge of the A. C. L. Champion—The Divans are Arranged in Booths and the Forward End of the Room is Curved to Match the Oval of the Rear End of the Car



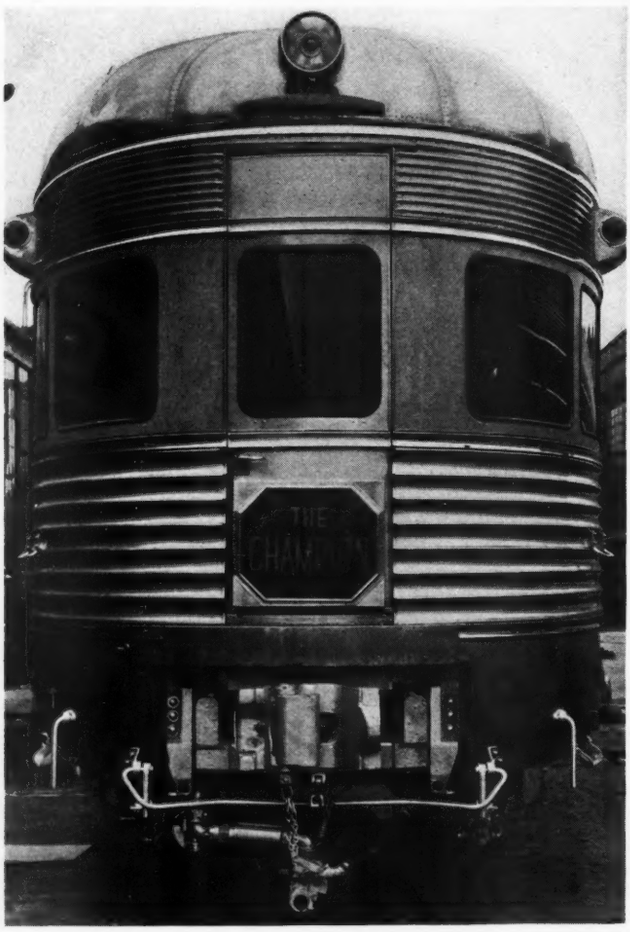
Exterior of One of the A. C. L. Champion Chair Cars

In the A. C. L. Chair Cars Circular Mirrors are Used on the Bulkheads — The Seats are of the Revolving Type

sills add a contrasting touch. Toilets for men and women are located in the after part of this car.

Next in order are two 60-seat passenger chair cars, with their entire space, exclusive of the lounges, devoted to adjustable-reclining-back seats. Walls of red brown are combined with a ceiling in flesh drab with light green ceiling stripes. The seat upholstery is a warm brown. In the women's lounge, with its deep divan chairs and complete powder room facilities, pink, beige and cocoa brown are used, while the men's lounge repeats the color scheme of the main passenger compartment.

In the Women's Dressing Room and Lounge of an A. C. L. Chair Car



The Rear End Exterior of the A. C. L. Champion

The dining car has accommodations for 48, at tables seating four persons each. It is decorated with walls of gray-brown blending with pink and light orchid tints in the ceiling. The dining chairs are upholstered in blue, while Venetian blinds and ebony black window sills add to the richness of the whole effect of this car. The buffet is finished in rare woods. The kitchen interior is of stainless steel and is completely equipped with refrigeration units, ranges, sinks, work tables, and storage space. A service door on the side of the car permits loading of supplies directly into the kitchen.

The fifth car of the train is another 60-passenger chair car and duplicates cars three and four with the exception of color scheme. The upholstery is green, walls are finished in gray green and ceiling in yellow white and ivory stripe.

The sixth car is a 52-passenger chair car, and includes

The Henry M. Flagler

large lounges at each end, for both men and women, respectively, and a compartment for the hostess. Here soft tones of light brown drab have been combined with a gray-white. The brown tints of the walls are blended with a gray-white ceiling, while ivory-tan is introduced in the air-diffuser stripes which run the length of the ceiling. Upholstery of amber rose rounds out the color ensemble. The women's lounge is finished with cocoa brown walls and ceiling in pink beige. At one end, as in the other cars of the train, is an electric water cooler designed to blend with the interior decorations.

The last car, an observation-lounge and tavern-car, is used entirely for entertainment facilities. It will seat 57 passengers in its various accommodations.

The tavern section, in the forward part of the car, seats 36 persons. The two lounges are equipped with curving divans facing the center of the car. These are divided by a series of booths. The color effect is designed to carry out this theme, with deep blue wainscoting, upper side walls of light tan drab giving way to a deep tan drab ceiling. The bar is decorated in a marine motif, and extends into the car from the after end of the tavern. It is backed by plate glass, with shelves conveniently arranged for beverages and glassware.

The observation-lounge is framed in a rounded and streamline rear end, the rounded effect being carried out also in the forward end to produce an oval room. Here, broad windows offer an unobstructed view, while deep lounge chairs and divans are arranged to provide maximum comfort. A writing desk is located at the forward end of this lounge, lighted with fluorescent lamps. In the sleeper-coaches, blue lights are turned on during the night run.

Fluorescent illumination has been used in the diner, the tavern and the observation-lounge; the 115-volt current for this lighting system is supplied by a Westinghouse motor-generator set operating from the car's d.c. power system.

The Henry M. Flagler Interior Decorations

The first car of the Henry M. Flagler, directly behind the locomotive, is a combination mail-storage and passenger car, arranged the same as the similar car in the A.C.L. trains. The decorative scheme is soft gray. Walls of olive gray blend into the fog gray ceiling, in which there are two olive buff ceiling stripes. These stripes are the air-conditioning diffusers. Upholstery is in blue, while window sills are ebony black.

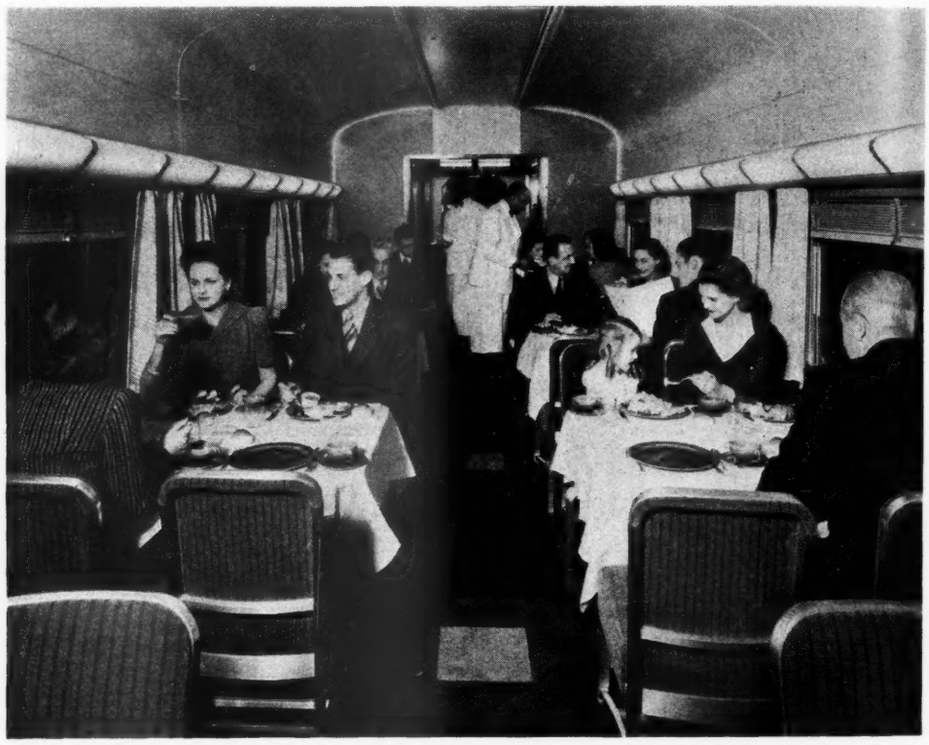
The second car is a 52-passenger chair-coach in which is the compartment for the hostess. Large men's and

The Tavern Car of the Henry M. Flagler Looking Toward the Bar End of the Car

women's lounges are located at each end of the car. Here the color scheme of the first car is repeated, except for the upholstery, which is in warm brown tints. The end paneling, as in the other cars of the train, is of figured woods decorated with two sea gulls in flight in metal relief.

Following this car is a 60-passenger chair-coach, with its entire space, exclusive of the lounges, devoted to lounge chairs. Walls of slate gray green are combined with a ceiling in green gray with green-blue ceiling stripes. Soft tones of gray, green and blue on walls and ceiling are complemented by wine rose upholstery and, as in the other coaches, window sills are of ebony black and flashings of stainless steel. At one end is an electric water cooler.

The dining car, with accommodations for 48, at tables seating four each, is decorated with walls of deep blue and ceiling in mist white and buff tan. The dining chairs are upholstered in blue, while Venetian blinds add to the richness of the effect. The buffet is finished



The Interior of the Dining Car on the Henry M. Flagler

The Matched Wood Panels on the Bulkheads of the Henry M. Flagler Chair Cars are Decorated with Flying Sea Gulls

Schedule of Atlantic Coast Line-Florida East Coast Florida Trains

	Champion				Henry M. Flagler			
	South		North		South		North	
New York	Lv.	12:30 p. m.	Ar.	9:15 a. m.				
Washington		4:40 p. m.		4:55 a. m.				
Richmond		7:10 p. m.		2:25 a. m.				
Jacksonville		7:00 a. m.		3:00 p. m.	Lv.	8:00 a. m.	Ar.	9:15 p. m.
St. Augustine		7:36 a. m.		2:09 p. m.		8:35 a. m.		8:38 p. m.
Daytona Beach		8:28 a. m.		1:17 p. m.		9:28 a. m.		7:47 p. m.
W. Palm Beach		11:58 a. m.		9:50 a. m.		12:50 p. m.		4:24 p. m.
Miami	Ar.	1:30 p. m.	Lv.	8:15 a. m.	Ar.	2:15 p. m.	Lv.	3:00 p. m.

in figured wood paneling. The kitchen finish is stainless steel. A service door on the side of the car permits loading of supplies directly into the kitchen.

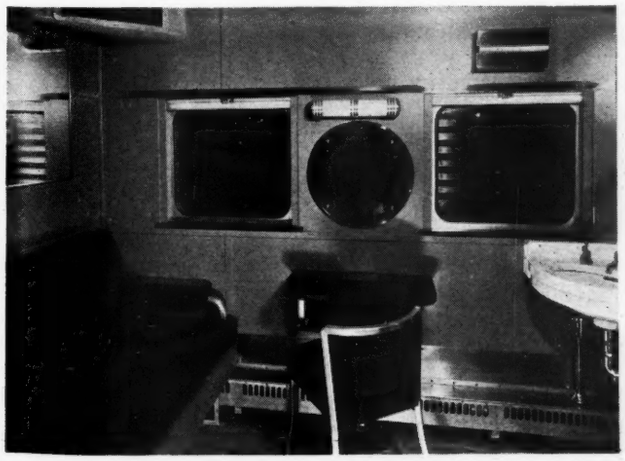
The fifth and sixth cars of the train are 60-passenger coaches, duplicates of car number three, with the exception of color scheme. In the fifth car, the decorations of soft grays, greens, and blues are set off by rose and tan upholstering. In the sixth car, the upholstery is blue green, with walls finished in deep gray and ceiling in robin's egg blue.

The last car is a 57-passenger observation-lounge and tavern car with the same interior arrangements as in the Atlantic Coast Line cars. The color scheme is light gray-brown wainscoting, upper side walls of grayed white, and ceiling of burnt yellow. The bar is decorated in a "drum" motif, and extends into the car from the after end of the tavern. It is backed by plate glass.

In both the Atlantic Coast Line and the Florida East Coast trains the fluorescent lighting in the dining car and tavern room of the tavern-observation lounge car is placed along each side above the windows and is completely covered by a translucent plastic. In the observation lounge the fluorescent lamps are placed in line along the center of the ceiling and are exposed.

Partial List of Materials and Equipment on the New F. E. C. and A. C. L. Trains

Stainless steel	Allegheny-Ludlum Steel Corp., Pittsburgh, Pa. Eastern Rolling Mill Co., Bridgeport, Conn. Superior Steel Corp., Pittsburgh, Pa. Republic Steel Corp., Massillon, Ohio
Steel plates	By-Products Steel Co. (Lukens), Coatesville, Pa.
Aluminum sheets and shapes	Aluminum Co. of America, Pittsburgh, Pa.
Castings	Dodge Steel Co., Indianapolis, Ind. Treadwell Engineering Co., Easton, Pa.
Frames and steel shapes	Welding Engineers, Inc., Philadelphia, Pa.
Forgings and grab handles	J. G. Brill Co., Philadelphia, Pa.
Trucks	General Steel Castings Corp., Eddystone, Pa.
Side bearings	A. Stucki Co., Pittsburgh, Pa.
Clasp brakes	American Steel Foundries, Chicago
Couplers	National Malleable and Steel Castings Co., Cleveland, Ohio
Bearings	Hyatt Bearing Div., General Motors Corp., Harrison, N. J.
Hand brakes	National Brake Co., Buffalo, N. Y.
Air brakes	Westinghouse Air Brake Co., Wilmerding, Pa.
Shock absorbers	Houde Engineering Corp., Buffalo, N. Y.
Sash	Hunter Sash Co., Inc., Flushing, L. I., N. Y.
Window sills	Monsanto Chemical Co., Springfield, Mass.
Air conditioning; generators, panels and lighting fixtures	Safety Car Heating & Lighting Co., N. Y.
Filters	Air-Maze Corporation, Cleveland, Ohio
Wovenstone	Union Asbestos & Rubber Co., Chicago
Wire and cable	Anaconda Wire & Cable Co., New York
Controls and lighting accessories	General Electric Company, Schenectady, N. Y.
Storage batteries	Electric Storage Battery Co., Philadelphia, Pa.
Fans	B. F. Sturtevant Co., Hyde Park, Boston, Mass.
Heating equipment	Vapor Car Heating Co., Inc., Chicago
Seats and backs on chairs and couches	Firestone Tire & Rubber Co., Akron, Ohio
Upholstery	L. C. Chase & Co., Inc., New York
Rotating and reclining seats	Coach & Car Equipment Co., Chicago
Flooring and carpets	Chas. Stoumen & Son, Philadelphia, Pa.
Rubber pads	L. H. Gilmer, Philadelphia, Pa.
Kitchen equipment	Angelo Colonna, Philadelphia, Pa.
Drinking cup dispensers	Logan Drinking Cup Div., U. S. Envelope Co., Worcester, Mass.
Plumbing supplies	Crane Co., Chicago
Locks and hardware	H. S. Getty & Co., Inc., Philadelphia, Pa.
Locks	Yale & Towne Mfg. Co., Philadelphia, Pa.
Miscellaneous hardware	Maddock & Co., Philadelphia, Pa.
Paint	Dolphin Paint & Varnish Co., Toledo, Ohio E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.



Upholstered Couches and Lighted Mirrors Over the Dressing Tables Feature the Women's Lounge on the Henry M. Flagler Chair Cars

I. C. C. Wipes Out C. & N. W. Equities

WASHINGTON, D. C.

EXPRESSING "reluctance" that such action was necessary, a majority of the Interstate Commerce Commission on December 15 approved a final plan of reorganization for the Chicago & North Western which would reduce the road's capitalization by nearly $100,000,000 and completely wipe out the equities of the common and preferred stockholders. In adopting such a drastic plan of reorganization which some observers have called the "perfectionist" type while others have termed it a "depression-proof" formula, the commission is following a consistent policy which has become increasingly evident as each of the larger reorganization cases is decided.

Commissioner Miller wrote a dissenting opinion in which he asserted that the capitalization of the road should be fixed at at least $100,000,000 more than the majority allowed so that the present equity holders might receive either with or without a cash payment new no-par common stock for their interests in the old company. Commissioner Splawn concurred with the majority, but expressed "misgivings" that the permitted capitalization would be supported by the earnings of the road.

The plan, as approved by the commission, provides

for a total capitalization of $449,974,309 as compared with a capitalization as of December 31, 1938, of $547,567,847. Fixed interest requirements would be reduced from a 1938 figure of $16,549,740 to $3,382,079. The plan also provides for additional contingent interest charges of $5,988,529.

After deciding that the preferred and common stock had no value and should not participate in the allocation of new securities, yet admitting that the company's capital stock was once, with good reason, regarded as an investment of great value, the commission said:

"Regrettably, the conditions relied upon to continue by these investors when they subscribed for or bought the stock at high prices, do not longer exist. Competing forms of transportation, loss of export trade and shifts in sources of traffic appear to have brought about a continuing change for the worse as regards any reasonable expectation of the ability of this property to produce earnings sufficient to support a capitalization in which the present stockholders might be recognized as possessing equities of any value. Definitely a short-haul carrier, and one looking to passenger traffic for a large part of its business, results show that the debtor has proved particularly vulnerable to highway competition. Capture of traffic by pipe lines has also been a serious factor, and the pipe line system is expanding."

Capitalization Exceeds "Normal" Earnings

The commission's decision went on to point out that the capitalization approved by it exceeds by more than 50 per cent that which can be supported by the earnings of "the normal year." The commission has computed the earnings for a prospective "normal year" at $14,625,000. "In order to pay a six per cent dividend on the new preferred stock, and a six per cent dividend on the new common stock which would have to be issued to creditors before present stockholders could be recognized, annual earnings would have to amount to $28,568,000, a figure approximating predepression record earnings," the commission said.

Under the plan as promulgated by the commission, equipment trust obligations totaling $11,678,000 and a Public Works Administration loan of $1,020,000, assigned to the Reconstruction Finance Corporation, would be left undisturbed. The only other special treatment meted out in the plan was to give the holders of Sioux City & Pacific and Des Plaines Valley bonds closed issues of new divisional mortgage four per cent bonds on a par for par basis.

In passing upon the final plan of reorganization for the road the commission decided that a lease by the C. & N. W. of the Chicago, St. Paul, Minneapolis & Omaha would not be in the public interest at this time. The plan as approved contemplates the retention of the Omaha by the reorganized company through the ownership of the Omaha's securities and its separate and independent operation as at present until otherwise authorized by the commission.

Capital Structure of New Company

The capitalization of the reorganized company will consist of the following securities:

Equipment trust obligations, $11,678,000; Public Works Administration loan, $1,020,000; Sioux City divisional mortgage four per cent bonds, $4,000,000; Des Plaines divisional mortgage four per cent bonds, $2,500,000; notes to the Railroad Credit Corporation at four per cent, $663,000; notes to banks at 2½ and 1½ per cent, $3,296,000; notes to Reconstruction Finance Corporation at 2½ and 1½ per cent, $25,000,000; first and general mortgage 2½ and 1½ per cent bonds, $55,762,556; first and general mortgage four per cent bonds, $13,100,000; second mortgage convertible 4½ per cent income bonds, $105,058,904; preferred stock, five per cent, $106,996,076; and common no-par value stock at $100 a share, $120,899,773.

The plan provides that the notes to the banks, R. F. C. and to the holders of the $55,762,556 of first and general mortgage bonds should receive 2½ per cent in fixed interest and 1½ per cent in contingent interest. The 1½ per cent would be contingent for the time being upon earnings and would become fixed when and if a stabilized level of earnings warranting it is reached. It is also provided that the commutation shall take effect when the commutable interest shall have been earned and been payable for three successive years.

The following table gives the treatment accorded the various mortgage issues under the final plan of the commission:

Outstanding issue	New bonds	New income bonds	New preferred stock	New no-par common stock shares
General mortgage 3½% bonds	$198	$463	$427	0.40
" " 4% "	202	470	434	0.41
" " 4½% "	205	478	440	0.42
" " 4¾% "	207	481	444	0.42
" " 5% "	208	485	447	0.43
Secured 6½'s	250	582	537	0.51
Milwaukee & State Line bonds	311	445	384	...
Manitowoc bonds	375	399	366	...
St. Paul Eastern bonds	...	...	...	11.80
Sparta bonds	240	271	330	3.12
St. Louis-Peoria bonds	428	388	384	...
First and refunding mortgage 4½% bonds	152	230	302	4.77
First and refunding mortgage 5% bonds	154	233	307	4.85
First and refunding mortgage 6% bonds	159	241	316	4.99
Debentures and unsecured claims	...	...	...	6.34

Miller Writes a Dissent

Commissioner Miller, in his dissenting opinion, said that measuring the value of the investment by the original cost less depreciation, which in his opinion is clearly justified, the capitalization of the new company should be increased by at least $100,000,000. "The issuance, under such increased capitalization, to the present equity holders of a subordinate class of no par value common stock, with or without a cash contribution as might be appropriate, would give them an opportunity to participate in future earnings of the company," he wrote.

He went on to say that "Although it is true that there would be little, if any, prospect that such stock would be of any value while the company is operating in competition with other railroads, I feel confident that such stock would prove of substantial worth if and when the railroads of the country are consolidated into one system or a few large systems. I believe that consolidations are necessary to the future welfare of the railroads, as well as of the country. While prophesying, as we are compelled to do in regard to future earnings in these reorganizations, I have the temerity to predict that unless consolidations are made on a large scale, many, if not all, of the railroads will drift into government ownership."

Commissioner Miller also thought that the charges and dividend requirements prior to the common stock "have been set too high." Other features of the plan with which he expressed disagreement were the mandatory capital fund and the desirability of setting up sinking fund payments in terms of a percentage of earnings and a participation provision rather than a cumulative requirement for income bonds and the use of no par value preferred stock. The undesirability of these pro-

(*Continued on page 971*)

I. C. C. Sanctions Trainload Rate

Decision in blackstrap molasses case approves the principle, but railroads must charge 15 cents per 100 lb. instead of proposed 14 cents

WASHINGTON, D. C.

RECOGNIZING how "economic, industrial, and transportation conditions have materially changed" since the last previous case involving rates on a quantity larger than a carload was decided more than 20 years ago, the Interstate Commerce Commission has reversed a life-long policy by approving such a rate in the I. & S. No. 4645 proceeding, the so-called trainload-rate case wherein the suspended schedules proposed a reduced rate on blackstrap molasses when shipped in 1,800-ton lots from New Orleans, La., and Harvey to Peoria, Ill., and Pekin. While thus sanctioning the principle of a rate based on the 1,800-ton minimum, the commission found the proposed charge of 14 cents per 100 lb. "unreasonably low" and "therefore unlawful," and ordered the suspended schedules canceled without prejudice to the filing of tariffs publishing a 15-cent rate.

The majority opinion (it was an eight-to-two decision) said in one place that the proposed rate "is not a trainload rate — it is rather a quantity or multiple-car rate." The finding on the principle involved is set forth as follows: "We find that there is nothing unlawful in the establishment of railroad rates on a quantity larger than a carload, when moving as a single shipment, where, as here, they are designed to meet competition from other modes of transport whose unit of transportation is not limited to single carloads, provided a just and reasonable relation in rates as between the larger and smaller quantities of the same traffic is maintained." In the latter connection the condemnation of the proposed 14-cent rate was based upon a finding that it would not bear "a just and reasonable relation to the existing carload rate," as well as upon one to the effect that it represented a greater reduction than was necessary to meet the competition of private barge operation. The present carload rate for the movement involved is 17.5 cents per 100 lb.

Porter Hits "Discriminatory Tendencies"

Commissioner Porter dissented, contending that "the trainload rate here adopted . . . is but another step in the furtherance of discriminatory tendencies" in rate-making. Previously Mr. Porter had identified other "discriminatory tendencies" which he had in mind, listing the practice of making low rates between large centers where competition exists, and "the recently devised scheme of all-commodity rates, the mixing rule, etc." He saw "no substantial change in conditions during the last twenty years that should cause us to overturn our long line of prior pronouncements."

Commissioner Lee agreed with Mr. Porter, while Chairman Eastman, subscribing to the conclusions of the majority, wrote a separate concurring opinion in an endeavor to bring "certain aspects of the matter into somewhat sharper relief." In concluding, Mr. Eastman expressed the belief "that there are other situations where the economy of volume shipments, particularly if they are expanded to trainload dimensions, would be greater than that which the record indicates will be realized in this case." Other brief concurring expressions came from Commissioners Miller and Patterson who would have approved the 14-cent rate. Commissioner Mahaffie concurred in Mr. Patterson's expression while Commissioner Splawn did not participate in the disposition of the proceeding.

As the majority report points out the proceeding was launched when the 1,800-ton-minimum rate was published in tariffs filed to become effective June 7 in a move to obtain for the railroads the blackstrap molasses traffic which the Commercial Solvents Corporation was shipping in its own barges. The report calculates that the 1,800-ton minimum is equivalent to 38½ tank-car loads. Railroads joining in the tariff, which was suspended pending the investigation, were: Illinois Central, Yazoo & Mississippi Valley, Missouri Pacific, Texas & Pacific, Chicago & Illinois Midland, Alton, Wabash and Illinois Terminal.

Barge and Rail Cost Estimates

Noting that "there are special and unusual circumstances under which this transportation is performed," the commission proceeds to describe the competitive set-up which diverted the equivalent of 622 carloads to the river as compared with 144 to the rails during the first seven months of 1939; in 1938 the figures were 909 and 49, respectively. The discussion of present barge services refers to the Solvent Corporation's representation that the cost of its river operations between New Orleans and Peoria "is less than 12 cents per 100 lbs."; but the commission goes on to calculate a barge cost of 15.72 cents per 100 lb., calling the latter figure "a rough approximation . . . based on unsatisfactory evidence." In like fashion it adjusts rail cost estimates offered by railroad witnesses and calculates that the Illinois Central's cost of handling the traffic in 38-car lots would be 11.19 cents per 100 lb. as compared with 12.32 cents in carload lots.

This estimate of I. C. costs is accepted as the minimum rail cost on the theory that the cost via the longer Missouri Pacific route would not be less. In the discussion of rail costs it is pointed out that the 1,800-ton minimum was determined upon as the quantity that could be received and disposed of within the free time at destination; railroad testimony indicated that the 38-car shipments would move in trains of up to 83 cars.

Coming to the position of the protestants, the commission points out that these objectors "offered very little evidence in opposition to the proposed rate," being in general opposed to the establishment of trainload rates. A witness for the American Cane Sugar League did not object to the establishment of a 14-cent charge applicable on carloads; but he contended that very few of the mills he represented could meet the 1,800-ton minimum requirement. The commission found it "difficult to see what disadvantage the Louisiana producers would suffer if the blackstrap movement in question were shifted from private barge back to the rail carriers." Next in turn the report disposed of the Mobile

Chamber of Commerce's protest and the contention that the aggregate-of-intermediates provision of the fourth section could be violated if one or more of the 38 cars were reshipped to points beyond Peoria. Because the Commercial Solvents could now reship blackstrap coming in by barge, "the proposed rate would not increase that possibility."

Railroads Have "Inherent Advantages," Too

The Shell Oil Company's protest is merely noted as one founded in a fear that the establishment of the trainload-rate principle will soon bring such rates "on petroleum and cottonseed oil." The Mississippi River System Carriers Association's contention that the proposed rate was "clearly aimed at the destruction of the inherent advantages of water transportation" is answered with this assertion: "The advantage of handling a large single consignment as one unit is not a natural advantage of water carriers as compared with railroad transportation. As far as physical operations are concerned, rails can handle as large a single shipment as water carriers."

The remainder of the majority report is devoted to citations and discussions of relevant prior commission decisions involving trainload, multiple-car or quantity rates. Although Commissioner Porter refers to a 1918 case, the majority said that Miller & Lux v. S. P. Co., 41 I. C. C. 617, decided November 9, 1916, appeared to be the last previous case "actually involving rates on a quantity larger than a carload."

"It will be observed from a review of the above cases," says the majority's follow-through from its citations, "that our refusal to sanction trainload, multiple-car, or quantity rates, when the quantities were greater than single carloads, was based upon a finding of unjust discrimination (using that term in a generic sense) in favor of large shippers. Unjust discrimination, however, is a question of fact. Economic, industrial, and transportation conditions have materially changed since these cases were decided. In none of the above cases dealing with rates on quantities larger than a carload was it shown that the traffic in question moved in cargo quantities by water, or that the traffic in question had been diverted from common carrier railroad transportation to shippers by private barge transportation. The movement here involved is a plant-to-plant movement by a private barge which has been in successful operation for two or three years. What is here attempted is that the common carrier railroads, whose sole business is transportation, seek to resume the transportation service which they formerly rendered, and which for the past two years has been performed largely by the shipper for itself.

"It is well-settled that differences in quantities shipped as a single shipment may afford a fair and reasonable basis for differences in transportation rates. In railroad transportation, these differences are currently recognized as between carload, less-than-carload, and any-quantity lots. In truck transportation, in addition to truckload and less-than-truckload rates there are so-called volume rates. In connection with the latter, there is no requirement as to the loading in a single truck. Highway load limits and other circumstances often require the use of two or more trucks for the transportation of a single shipment."

There follows reference to multiple-carload rates published by the Canadian National; the intrastate rate on sand and gravel, minimum 15 cars or more, in effect in Michigan; and "numerous joint rail-barge rates now subject to minimum weights ranging from 300 to 1,500 tons insofar as the barge portion of the movement is concerned." Also, mention is made of the fact that the barge lines generally maintain rates applicable on cargo quantities, while pipe lines publish "quantity rates." Dealing with the contention that the principles of the Robinson-Patman Act (aimed at discriminatory discounts for large purchasers) should be applied to railroad transportation, the commission notes that the Federal Trade Commission, in administering that act, has found unlawful price discriminations in numerous cases, but it has not exercised its powers "to establish quantity limits as to particular commodities."

"It must be borne in mind," the commission goes on, "that discrimination is a question of fact, and that, in the instant case, the traffic is moving in cargo quantities by water. Furthermore, the Illinois Central's cost study indicates on its face that the cost of the loaded movement of this commodity in carloads is approximately 25 per cent greater than the cost of moving 38 cars as a single shipment. If the empty-car movement be included, the excess cost indicated for handling the traffic in single carloads is 17 per cent. Our restatement of these costs reduces that latter difference to 10 per cent. This ratio of carload to quantity movements may be compared with the difference between the present carload rate of 17.5 cents and the proposed quantity rate of 14 cents." That relationship "insofar as it was pertinent" was considered by the commission when it rejected the 14-cent rate without prejudice to one of 15 cents; but it said that the record afforded "no basis for the determination of graded rates on quantities ranging from one carload to the proposed minimum of 1,800 tons, or 38 carloads."

Doubts Rate Would Be of Material Advantage

That, said the majority report, is a matter "that must await the presentation of a case in which that issue becomes pertinent." In the same connection Chairman Eastman expressed the belief that carload shippers of blackstrap over the rail routes involved are, "if they desire it," entitled to a rate which does not exceed the rate on volume shipments by more than the indicated difference in the cost of service, i.e., the above-mentioned 10 per cent. Mr. Eastman adds, however, that "it is doubtful whether in the circumstances such a rate would be of material advantage."

Before setting forth its conclusions the majority report discusses the relevance of the Interstate Commerce Act's declaration of policy to "foster and preserve in full vigor both rail and water transportation." "Even if such declaration of policy should be construed to include the promotion and encouragement of private transportation on the waterways," the commission says, "it does not exclude the right of a regulated common carrier to meet such competition in a proper manner and to a reasonable extent. Common carriers under regulation should be allowed more leeway to meet the competition of a shipper or consignee transporting his own goods than in meeting the competition of another carrier for hire. On the other hand, where competition with a private agency is the sole reason for departing from a normal adjustment of rates, not only should the cost of service be regarded as an absolute minimum, but such departure should go no further than is necessary to meet effectively the competitive situation. This is necessary to avoid the discriminations prohibited by statute as well as for protection of regulated carriers themselves."

Chairman Eastman Concurs

Chairman Eastman's separate expression suggests that the commission's past hostility to multiple-carload rates

was based on considerations of public policy rather than on transportation conditions, "that is to say, that such preferences would tend to concentrate business in the hands of large concerns contrary to the public interest." He continues to point out, however, that "other forms of transportation which compete with the railroads can lawfully, and do, give the shipper of large quantities a decided advantage over the shipper of quantities equivalent to a railroad carload. This is true of pipe-line transportation, by its very nature, and it is also true of water transportation, where the shipper who can fill a boat or a barge can normally have his commodities carried on more favorable terms than the shipper of lesser quantities. In recent years, also, these opportunities for transportation advantage to the large shipper have increased continually and rapidly.

Such a situation is presented here. . . . This is a preference in favor of large shipments which exists and which is lawful. The record also shows clearly that the railroads can move molasses . . . in multiple carload quantities . . . at a materially lower cost per 100 lb.. than they can move single carloads. The question at issue is whether it is lawful for them to make rates which reflect this inherent advantage in volume shipments in order to compete more effectively and profitably with existing water transportation. In my judgment it is lawful."

The chairman then goes on to discuss briefly the pertinent decisions of the past, dealing at one point with the citation of Wight v. United States, 167 U. S. 512, in support of the argument that "competition cannot be offered as a valid excuse for discrimination." The basis for the discrimination, Mr. Eastman replies, "is not the competition, but rather the difference in cost of service, which enables the railroads to compete more effectively and profitably through the medium of volume shipments than through the medium of single carloads." On the question of whether the 14-cent rate had been justified, Mr. Eastman resolved his doubts in favor of the 15-cent rate, "especially in view of the known revenue needs of the railroads."

Commissioner Porter Dissents

Launching his dissent, Commissioner Porter told his colleagues that "we are admonished to 'remove not the ancient landmarks which the fathers have set'." He went on to point out how the decision removes "a landmark set up by that eminent jurist, Thomas M. Cooley, speaking for a unanimous commission in the first year of the commission's existence." (Providence Coal Company v. Providence & W. R. Co., 1 I. C. C. 107) "The fundamental principle that the small shipper is entitled to have his product carried at the same rate as the large shipper, and that to permit the large shipper through any device to enjoy a less charge than the small shipper was discriminatory and prohibited by the Act," Mr. Porter next asserts, "was adhered to and reproclaimed in no less than 25 cases from 1887 to 1918, the last definite pronouncement by the entire commission on this subject. Everybody, no doubt, thinking that the subject of trainload or other species of wholesale rates had been definitely settled by us, allowed the subject to rest from 1918 to the present.

"There has been no substantial change in conditions during the last twenty years that should cause us to overturn our long line of prior pronouncements. Competition existed when they were made as it does today. The Mississippi was running to the sea as now. In any event, competition cannot be offered as a valid excuse for discrimination." In the latter connection Mr. Porter cites Wight v. U. S., the relevance of which was also discussed by Chairman Eastman, as noted above. Continuing to other citations, Mr. Porter finds his aforementioned 1918 pronouncement on "the wholesale theory of transportation" in Private Wire Contracts, 50 I. C. C. 731,757, wherein the unanimous decision was written "by my illustrious predecessor, Commissioner Hall."

Next comes the dissenting commissioner's expression of concern over the addition of the train-load-rate theory to other "discriminatory tendencies" in present-day rate making. "If, because of economy in transportation and competition, trainload rates are good for blackstrap molasses," he asks, "why are they not good for the shipment of oil from the midcontinent field to Central territory; for the shipment of sugar from New Orleans to Chicago, or for the shipment of lake cargo coal to the Great Lakes? Once embarked upon the sea of these discriminatory rates there is no telling to what harbor they may lead."

I.C.C. Wipes Out C. & N.W. Equities

(*Continued from page 968*)

visions have been discussed at length by the commissioner in recently-decided reorganization cases.

Splawn Thinks I. C. C. "Over-optimistic"

Commissioner Splawn, in a concurring opinion, expressed doubt that the earnings of the property would support the capitalization fixed by the majority. Mr. Splawn thought the commission showed "considerable optimism as to the future earnings of this road." After citing the changing conditions in the transportation field, the commissioner concluded his dissent by asserting that "In the light of present conditions and of anything that might be considered as definite, the estimated future earnings of this property is over-optimistic,. so much so that the common stock will have only a speculative value. It is possible, however, that American genius for organization and enterprise may soon effect changes so favorable to transportation as to overcome existing deficiencies."

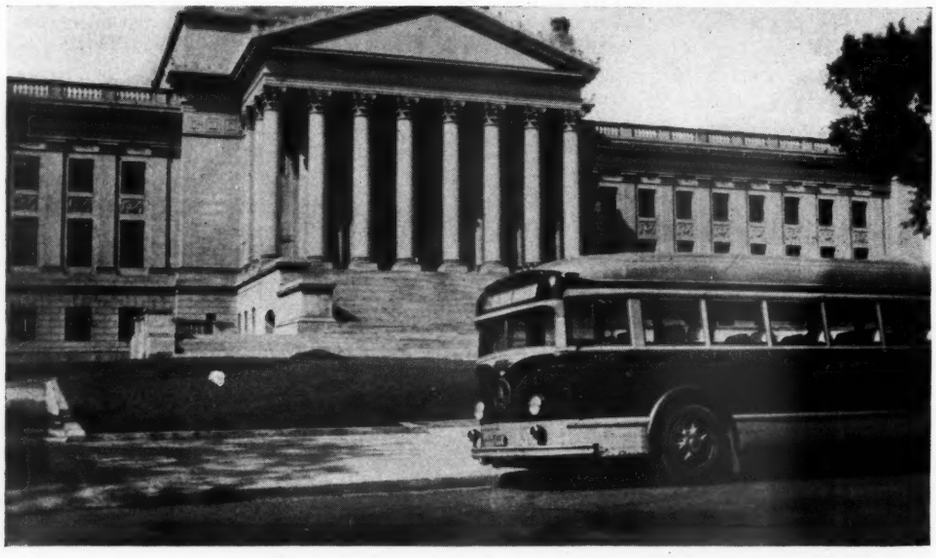
Under the procedure of section 77, the plan now goes to the Federal District Court for the Northern District of Illinois, Eastern Division, for its approval, after which it will be submitted to the creditors for their approval or rejection.

What About Producers' Tie Stocks?

(*Continued from page 961*)

tended period of study, negotiation and compromise. For this reason, it will be to the interest of the railways to initiate these studies quickly and to carry them to a conclusion at the earliest possible moment. It should not be overlooked that the longer the matter is deferred the more difficult it will be to get action, and that in the meanwhile the tie-producing industry will continue to face such serious uncertainties that it may be compelled to stop production until the railways enter the market. It is so directly to the interest of the railways to prevent this eventuality that they should extend their fullest co-operation to the producers to attain the objective that will be of immeasurable benefit to both.

Motor Transport Section



Modern Equipment Promotes Safety on the West Virginia Transportation Company Routes

Bus Subsidiary Expands Operations

West Virginia Transportation Company, owned by Baltimore & Ohio, begins new runs and adds equipment

THE West Virginia Transportation Company, a bus subsidiary of the Baltimore & Ohio, has much closer working arrangements with the parent railway than is usual in developments of this kind. Its lines largely parallel and supplement the railway lines of the B. & O. in West Virginia, and, in addition to satisfactory operation itself, the bus company has enabled marked savings to be made through greater efficiency in railway operation, particularly on branch lines. The B. & O. carries schedules of the bus company in its timetables, and the schedules of the bus company are joint schedules, showing both motor coach and train service in the territory served. No attempt has been made to invade the territory of other railways, the basic idea being, by the co-ordination of rail and highway service, to give the territory served by the Baltimore & Ohio the best passenger service that the volume of traffic justifies, to hold existing traffic and to expand operations so that the traffic may be increased.

Pursuant with this policy, the bus company has been built up to a company operating many schedules daily between all important points in central West Virginia as well as furnishing local bus service in the city of Grafton. The latest of these expansions involved the establishment of through service between Morgantown and Charleston, approximately 200 miles. This was accomplished by extending an existing route from Grafton to Morgantown 26 miles, thus giving through service between two of the largest cities in the state for the first time.

Efficient Operation

The West Virginia Transportation Company has a record of not having killed or seriously injured a passenger in more than ten years of operation, despite the mountainous territory it traverses and the severe winter operating conditions. This has been accomplished by means of close attention to safety, by selecting drivers who were familiar with large vehicle operation, particularly over crooked and mountainous roads, and by keeping all equipment in first class shape. A total of 33 buses are in operation, six of which were delivered in 1936, six in 1938 and four in December, 1939, so that all main line runs are protected by modern buses of 29-passenger capacity. The new buses will permit the W. V. T. Co., to engage more largely in the profitable business of chartering buses for special parties than has been possible heretofore.

All of these buses have liberal provisions for baggage and package space, since the West Virginia Transportation Company derives a part of its revenue from the transportation of newspapers and a wide variety of small package freight. Such packages are handled under the shippers' markings, without waybills.

Stamps are sold to be affixed to the packages according to weight, thus eliminating the necessity for elaborate paper work. This system of handling by stamps instead of waybills has been in effect for more than ten years and has been a complete success. The claims paid in that period have amounted to materially less than one-half of one per cent of the gross revenue. No packages containing articles of extreme value are handled and no package weighing more than 50 lb. is hauled. Deliveries are ordinarily made at the bus stations, but store door delivery is made to certain businesses along the bus route.

An example of the saving effected by rail-highway co-ordination and the better service afforded is found in the recent extension of bus service between Parkersburg and Petroleum. This 30-mile bus route parallels the B. & O. main line and by serving the local stations, it has permitted the elimination of eight stops on one train's schedule, which has been accelerated 30 min. as a result.

Joint Efforts

The West Virginia Transportation Company has followed a policy of co-operation rather than rivalry with independent bus companies in its territory for many years. The joint schedules between Parkersburg and Wheeling, and between Clarksburg and Charleston, which have been in effect for some years with the Atlantic Greyhound lines, continue to save both companies considerable sums annually, while at the same time providing their patrons with more frequent service than if each company attempted to operate individual buses with the same starting time, in competition with each other. On these runs, the tickets of the two companies are interchangeable and the idea of co-operation is extended still further by means of a joint plan for the maintenance of equipment, based on the location of the main servicing facilities of each company, which also effects a large annual saving.

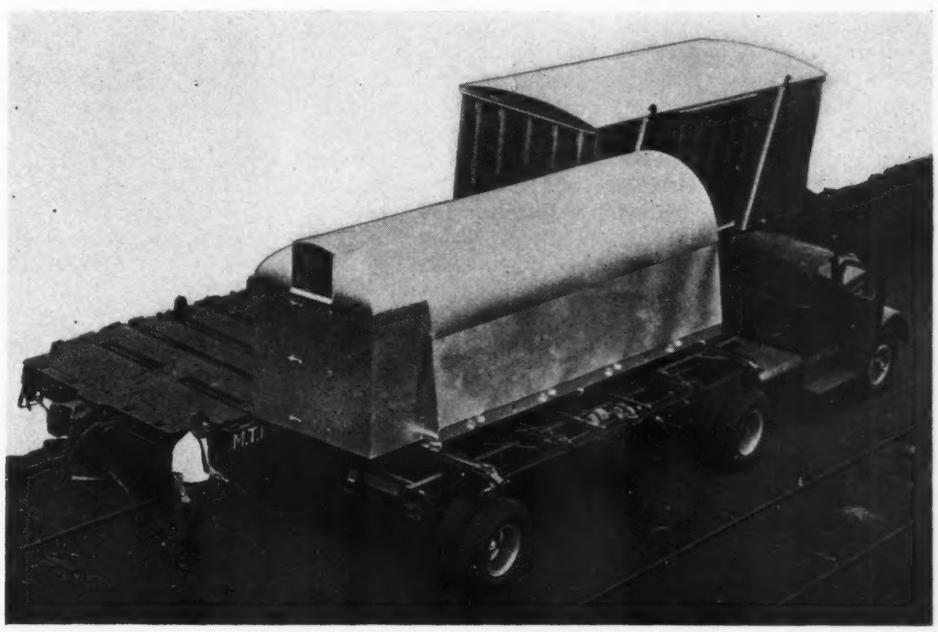
By another reciprocal arrangement, the important city of Elkins has been added to the W. V. T. Co.'s feeder territory, a scheme being worked out whereby the Reynolds Transportation Company, operating out of Elkins, leases the line of the W. V. T. Co. between Buckhannon and Weston and now operates through buses between Elkins and Weston, where close connections are made with the Clarksburg-Charleston line, thus giving prompt service between Elkins and Charleston. Schedules have also been worked out with the same company providing for close connections at Clarksburg between the W. V. T. buses from Parkersburg and Wheeling and the Reynolds buses, thus giving fast through service between those points and Elkins.

Motor Terminals Shows Rail-Highway Equipment

MOTOR Terminals, Inc., of New York and Cincinnati, Ohio, has been demonstrating its latest co-ordinated rail-highway equipment. The railroad car is a standard Pennsylvania F-30-A class, 70-ton flat car with cast steel underframe. On its deck are placed 10 skid rails and along each side 10 positioner-anchorages which fasten the demountable bodies rigidly during rail movement. A standard heavy-duty trailer built by the Trailer Company of America and a standard heavy-duty White Motor Company tractor, with power take-off attachment, comprise the highway unit. To the chassis frame of the trailer has been welded the special transfer conveyor which was built in the N. Y. O. & W. shops at Middletown, N. Y., to Motor Terminals' design.

The major items of the conveyor are two endless drive chains running transversely across the trailer, to which are attached seven lugs on 27-in. centers which engage companion lugs on the demountable bodies. These are driven by a 110-v., 3-hp. electric motor fed by a flexible, detachable cable from a generator located on the tractor and connected with a universal shaft to the truck engine power take-off. Two retractable bridges are located at each side of the conveyor to bridge the gap between the car and the trailer and detachable push-pull bars of bent tubing with steel castings at each end are used to move the bodies. One end of each bar is fitted with an engagement casting that fits into the links of the drive chain; the other has a ball-and-socket for engagement in a pocket located on the demountable bodies.

The merchandise body (M. T. I. X. 600) is a 20 ft. by 8 ft. by 8 ft. welded unit of hi-tensile structural steel sheets, constructed at the N. Y. O. & W. shops



The Truck Operator is Transferring a 4,000-Gal. Milk Tank Unit From Truck to Flat Car. An Operation Requiring About 90 Seconds. Merchandise Body Is in the Background

This Demountable Merchandise Body Weighs 5,500 Lb. and Will Carry 44,000 Lb. Loaded on Railroad Car or Truck-Trailer

from regular warehouse stock. Its tare weight is quoted as 5,500 lb. and its load capacity as 44,000 lb. Attached to its underframe are three transverse rails which slide in the rail grooves located on the flat car. Eight sets of anchorage blocks are welded to side-frame members to engage with any of the 20 positioners on the flat car and are equipped with a double lock of the gravity type to ensure their fastening. The body is also fitted with hooks at the top for alternative transfer by crane.

The milk container is a 4,000-gal., stainless steel circular tank mounted on a sub-frame provided with skid rails, manufactured by Glascote Products, Inc. Its total weight is 7,300 lb. and its length 20 ft.

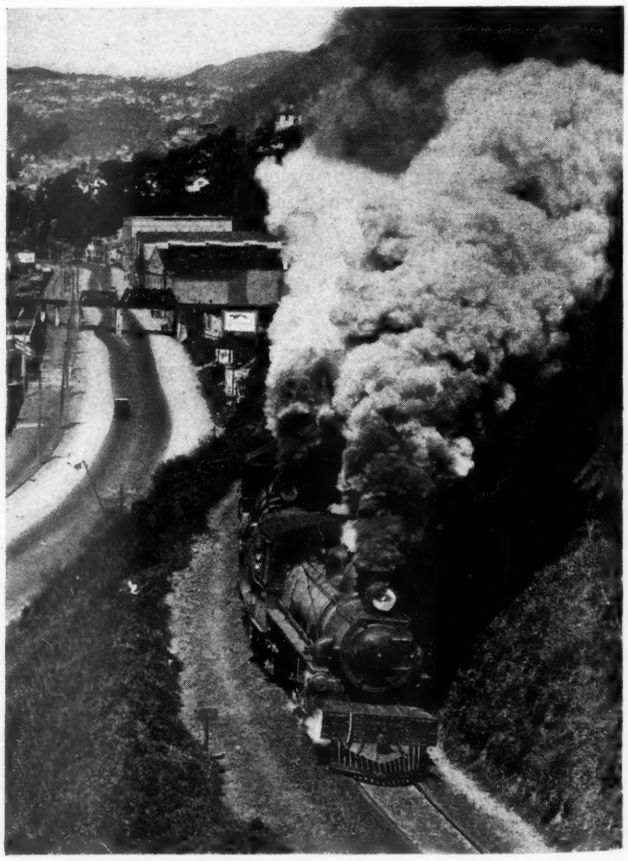
The transfer of either of the two units between tractor-trailer and car consumes about 90 seconds and may be performed solely by the truck driver. After spotting his truck parallel to the flat car he leaves his motor idling with power take-off engaged and sets up the retractable bridges. He then inserts a push-button control cable in a receptacle provided near the rear of the truck and presses the button marked "on," which immediately closes a solenoid located on the tractor, which in turn opens the butterfly valve of the carburetor to an adjusted point; the motor rotates the generator at a speed sufficient to feed the electric motor, which, through suitable gear reduction, drives the endless conveyor chains. These carry the demountable body sideways toward the flat car, which movement automatically halts when the body is about half-way off the conveyor, since the lugs no longer engage. The operator then presses the "off" button, stopping the drive chains, locks the two push-pull levers in place, and, again pressing the "on" button, completes the transfer to the flat car.

In the reverse transfer from car to trailer, the push-pull bars attached to the drive-chains pull the body toward the truck until its lugs engage with those of the chain; the bars are then removed and the movement completed. The length of the push-pull bars prevents the body from being placed too far on the opposite side of the flat car, while automatic limit switches connected to the conveyor-chain drive prevent over-stepping the permanent anchorages on the trailer.

The Association of American Railroads has recognized Motor Terminals' flat-car equipment as suitable for interchange, assigning reporting marks "MTIX." Rule 18 designates such cars as "LF" type for freight service and "BMT" for passenger service, with wheelage allowances of 1.5 and 2.5 cents, respectively, per mile. The company's present arrangements provide that it lease adapted flat-cars of its ownership and transferable rail-highway units to shippers, the rental to be reduced by whatever wheelage allowances from the railroads accrue on the equipment. The complement of units on each car of Motor Terminals' design are subject to shippers' specifications.

New Zealand Acquisitions Turn Traffic Railward

THE acquisition by the New Zealand Government Railways of competitive motor truck services and a re-diversion to the rails of some 10,000 tons annually of freight previously hauled by the former independent motor carriers, is described in the annual statement of D. G. Sullivan, Minister of Railways, New Zealand, for the fiscal year ended March 31, 1939. Although the railways department has carried on motor bus operations since 1926, it was not until 1938 that extensive operations in highway freight services were begun, when in May of that year the department acquired the routes previously operated by Highways Transport Company, Ltd., a large operator in the Wellington district, and several similar companies in the Auckland-Hamilton area. Altogether during the year



Courtesy N. Z. Rys. Publicity Dept.
The New Zealand Government Railways Are Re-Diverting Long-Haul Freight to the Rails Formerly Carried by Independent Truckers Whom They Have Bought Out

45 routes and 218 motor trucks were taken over by the railways department.

During the period of adjustment of former separate and competitive services to a branch of the railroad system, the routes have been operated much as before but "wherever practicable the traffic is being conveyed between terminal points by rail, and the collection and delivery only carried out by our road services." At the present time the equivalent of some 10,000 tons of freight a year previously hauled by highway is being diverted to the rails. The rate schedules of the private operators built up under the competitive conditions which existed are still being continued by the department subject to the 10 per cent rate increase applicable to railroad shipments effective December 11, 1938.

It is pointed out that the department faced a difficult and expensive rehabilitation job in taking over the motor trucks. Many of the vehicles were unsuited for all-around service and buildings were inadequate and unsuitable. Furthermore, it was found that some of the private operators conducted their service with disregard of regulations, licensing restrictions and standard rates of pay and conditions of employment. The department, as a responsible government body, had to rectify this condition of affairs.

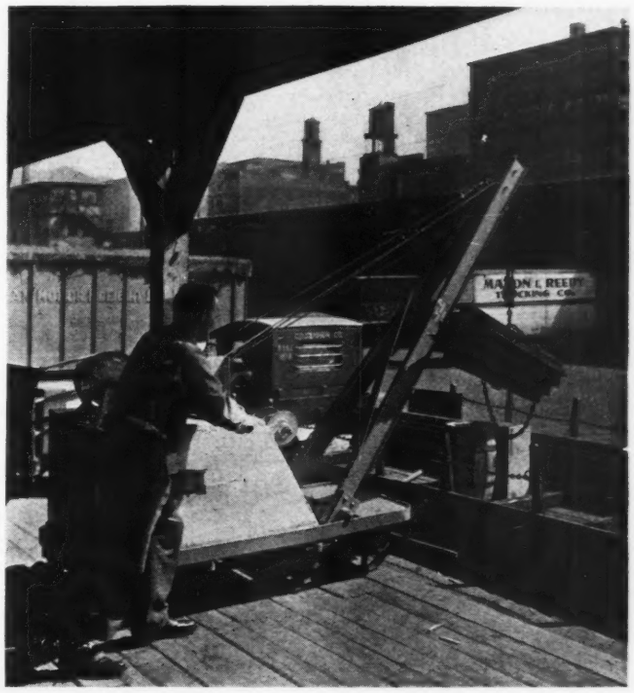
Regaining Fresh Meat Traffic

THE intensive highway competition made possible by the relatively short hauls and good roads in England caused an almost complete loss to the railways of the lucrative fresh meat traffic some years ago. Recently, however, by the publication of lower rates and the use of special refrigerated trucks, much of this traffic has been regained. Moreover, the expense of operating the refrigerated trucks to pick up and deliver this traffic has been materially reduced by co-ordinated service of all the British railways. The London & North Eastern; the London, Midland & Scottish; the Great Western; and the Southern use and operate these trucks jointly, reducing the expense, to permit lowered rates to attract the traffic. At the same time, it is possible to provide the necessary refrigerated truck service at many small common points where the traffic available is not sufficient to justify the individual operation of such trucks by each of the two or three railways serving the city.

The British Railways Handle Much Fresh Meat

New Truck-Hoist

AN unusual moveable hoist has been perfected by the Chicago, Rock Island & Pacific for handling L. C. L. freight weighing more than half a ton, between highway vehicles and freighthouse platforms. The illustration shows this new type hoist in use at the Taylor street freighthouse of the Rock Island at Chicago. The hoist is mounted on a four-wheel truck, with an extra set of wheels under the steel floor, and with concrete blocks mounted on the chassis to balance the load on the boom projected from the front end of the truck. The hoist can be moved to any part of the freighthouse and permits loading and unloading of highway trucks in half the time required by hand, as well as reducing the danger of personal injuries or damage to the freight.



Truck-Hoist in Operation at a Rock Island Freighthouse

Washing Buses

THE Ross & White Company, Chicago, has issued a pamphlet on machinery for washing buses, featuring the Blackhall bus and car washer. This mechanical device consists of equipment operating simultaneously on each side of the vehicle, each unit being equipped with four revolving brushes, 15 in. in diameter, the longer brush on each side scrubbing the vehicle from the bottom to the top with the brush revolving in one direction, while the second brush gives the windows a second scrubbing by revolving in the opposite direction. The washer is featured by a mechanical adjustment that permits washing vehicles of different sizes and varying widths.

NEWS

Chandler Offers New Revamp Bill

Instead of a special court on bankrupt roads, three-judge court would handle

Representative Chandler, Democrat of Tennessee, chairman of the bankruptcy subcommittee of the House judiciary committee, who has resigned to become mayor of Memphis, Tenn., effective January 1, 1940, made public this week a substitute bill for S. 1869, the Wheeler-Truman railroad reorganization court bill. The proposed draft, as released by Mr. Chandler, modifies the provisions of the measure passed by the Senate at the last session by giving flexibility to capital requirements imposed upon newly organized carriers and by eliminating proposals for the establishment of a special railroad reorganization court which would have its seat in Washington, D. C.

Mr. Chandler said that he had submitted copies of his proposed bill to the members of his subcommittee in order that they might study it prior to the convening of Congress in January. The Wheeler-Truman bill was passed by the Senate, and the House judiciary committee held extensive hearings on it at the last session of Congress.

In order that a duality of responsibility may be avoided by the Interstate Commerce Commission and the court and that the reorganization proceedings may be expedited, the Chandler substitute proposes that the commission shall hold initial hearings on the plan and shall report a plan to the United States District Court. The court then takes the case over, with authority to approve a plan without referring it back to the commission, thus eliminating the present "shuttling" between the court and the commission. "This", in Mr. Chandler's opinion, "secures the judgment of the commission, but puts the final responsibility on the court."

Instead of establishing a special railroad reorganization court, as was done in S. 1869, the Chandler substitute provides that a special three-judge court be convened in each case similar to the court now provided for in injunction suits and consisting of a district judge and two circuit judges. The testimony as to the reorganization plan would be heard by the district judge, who would prepare a tentative opinion which would be heard, on objection, by the three judges. The purpose of this provision, according to Mr. Chandler, is to strengthen the district court by securing the judgment of additional judges but to permit the district judge, who is now in charge of the case, to formulate an opinion of the plan, thereby not losing the benefit of his experience and familiarity with the case. The administration of the property would be left with the district judge under the proposed plan. The judgment of the three judges, however, would be required, in addition to the approval of the plans, or appointment of trustees and their counsel, on the allowance of compensation and expenses, on the confirmation of plans where not approved by the requisite votes of creditors and stockholders, on the upset prices where there is a sale of the assets and on other issues upon which the district judge asks help.

The revised measure also provides that if the commission fails promptly to approve a plan, the court shall proceed independently of the commission. This feature, according to Representative Chandler, is designed to prevent obstruction to the prompt administration of the law.

Among the other changes recommended by Mr. Chandler is one which would prevent appointments of trustees and counsel who have had affiliations of a personal, political, or family nature with any of the judges, or the appointment as sole trustee of any one who is a creditor, stockholder, employee, officer or attorney of the debtor.

Transportation Club of Atlanta Elects Officers

The Transportation Club of Atlanta has elected the following officers for the ensuing year: President, Leo M. Balliet, assistant traffic manager of the American Cotton Manufacturers Association; first vice-president, E. L. Setzer, assistant freight traffic manager of the Seaboard Air Line; and second vice-president, George W. Leyhe, traffic manager of Armour Fertilizer Works.

Order on Northwest Petroleum Rates Postponed

The Interstate Commerce Commission has postponed from January 8, 1940, to February 7, 1940, the effective date of its order requiring the cancelation of suspended schedules involved in the I. & S. No. 4614 proceeding wherein the commission dealt with the principal interstate rail and truck rates on petroleum and its products in the Mountain-Pacific Northwest. The commission's decision in this case was reviewed in the *Railway Age* of October 7, page 533.

Opposition to C. N. J. Trustees

State Attorney General doesn't like the appointees, and politics is blamed

The confirmation of Walter P. Gardner, former president of the now defunct New Jersey Title & Trust Co., as a co-trustee of the Central of New Jersey was opposed by Robert Peacock, assistant attorney general of New Jersey on behalf of the attorney general of that state at a hearing held before Interstate Commerce Commissioner Miller and Examiner Boyden on December 19. The hearing to determine the qualifications of Mr. Gardner and his co-trustee, Shelton Pitney, Newark lawyer, was called at the request of a bondholders' protective committee, which had contended that neither man was qualified to serve as a trustee of the road, which recently filed a petition for reorganization under section 77 of the Bankruptcy Act.

Without stating any specific grounds for the objection to Mr. Gardner's appointment, Mr. Peacock introduced into the record reports made by agents of the state's department of banking and insurance which tended to reflect on Mr. Gardner's administration of the bank, which is now in the process of liquidation.

He read into the record excerpts from the report quoting bank examiners as stating that prior to the closing of the institution, the bank's investments were of a "poor calibre" and that the investments had a low rate of liquidity. The reports revealed that the institution lost $4,220,000 during the period from January, 1935 to 1938, while Mr. Gardner was president.

Mr. Gardner told the commission that he resented the inference that the bank's closing was due to his own maladministration, and asserted that the attack on him was motivated by political considerations. He explained to the commission that he was "persona non grata" in Jersey City "politically" because of the fact that he had criticized the city's fiscal administration.

Both men were cross-examined by William A. Roberts, attorney for the bondholders' protective committee, who sought to show that neither Mr. Pitney nor Mr. Gardner were qualified to serve as co-trustees of the road.

The questioning of Mr. Pitney was along the lines of showing that his connections with clients of his law firm would not leave him free to serve as an impartial trustee. Mr. Pitney denied that such was

the case, and told the commission that if his appointment is ratified, he will do his best to serve the interests of the public and improve the financial condition of the road. He also said that he had represented several bondholders' committees in other railroad reorganizations, but that he had had no actual experience in the operation of the railroad. Rather, he thought that an operating man would have to be appointed to operate the company. He also informed the commission that he expects to devote his entire time to the railroad.

Mr. Gardner recited his experience in financial matters, his latest position having been that of president of the New Jersey Title & Trust Co., which is now in the process of liquidation. He, too, had had no actual experience in operating a railroad, but felt that he was well acquainted with the financial structure of the bankrupt.

Eugene S. Brooks, chairman of the protective committee, told the commission that he believed there should be only one trustee for the road. Counsel for an institutional investors group, and the Reading, which controls the Central, also expressed the view that one trustee would be sufficient, but offered no opposition to the appointments.

Accounting Order

The Interstate Commerce Commission has issued an accounting order which might be described generally as a clarification of certain interpretations of the accounting classification pending either under formal order or in informal cases. The order does, however, prescribe two new accounts—755½, Long-Term Debt in Default, and 769½, Matured Interest in Default.

I. C. C. Won't Probe Truck Rates For Rail and Ship Lines

The Interstate Commerce Commission has denied the recently-filed petition wherein rail and steamship lines participating in joint routes between North Atlantic ports and interior Southeastern points, asked for an investigation of rates of competing motor carriers. The filing of the petition was noted in the *Railway Age* of December 2, page 864.

Would Exempt Denver & Intermountain from Pension Act

Examiner Burton Fuller has recommended in a proposed report that the Interstate Commerce Commission find that the Denver & Intermountain falls within the terms of the exemption provisos of the Railroad Retirement Act, the Railroad Unemployment Insurance Act and the Carriers Taxing Act. The proceeding (Electric Railway Docket No. 10) was instituted at the request of the Railroad Retirement Board.

Proposed Rules for Chartered or Special-Party Bus Service

Examiner L. A. Riegel has recommended in a proposed report six rules which he would have the Interstate Commerce Commission prescribe under section 208 (c) of the Motor Carrier Act to govern the special or chartered party services of common carriers by motor bus. The proposed report is in Ex Parte No. MC-29, the general investigation of the subject instituted by the commission upon its own motion.

October Net Income Was $56,521,000

October's net income, after fixed charges, of $56,521,000 turned this year's cumulative figure for the Class I railroads from red to black, making the net income for the first ten months $23,245,000, as compared with the cumulative net deficit of $33,267,000 reported as of the end of September. The net income for October, 1938, was $24,171,000 while the net deficit for last year's first ten months was $151,399,000.

I. C. C. Will Appeal on Jurisdiction Over Motor Employees

The Interstate Commerce Commission will appeal to the Supreme Court of the United States the recent decision wherein a statutory three-judge court, sitting in the United States District Court for the District of Columbia, upheld the contention of American Trucking Associations by ruling that the I. C. C. was in error in holding that its authority to regulate hours of service and qualifications of motor carrier employees was limited to those employees whose activities affect safety of operations, i.e., drivers only. The court's decision was reviewed in the *Railway Age* of December 9, page 897.

British Gazette Issues Annual Overseas Number

A survey of developments during the past year on both private and state-owned railways in all parts of the British Empire, except Great Britain itself, and on British-owned private roads in such foreign countries as Argentina and Brazil has been published by the Railway Gazette (33 Tothill street, London S. W. 1) in a special "Overseas Railways Number." Containing 128 pages of text and large-size photographs giving views of operations of all major British overseas railroads, the issue sets forth detailed reports on the current activities and problems of 44 separate systems written by a chief officer of each.

November Operating Revenues 14.7 Per Cent Above 1938

Preliminary reports from 90 Class I railroads, representing 82.3 per cent of total operating revenues, made public today by the Association of American Railroads, show that those roads, in November, had estimated operating revenues amounting to $301,908,421 compared with $263,142,760 in the same month of 1938, and $325,299,256 in the same month of 1930. The November gross was 14.7 per cent above that of November, 1938, but 7.2 per cent below November, 1930.

Freight revenues of the reporting roads in November amounted to $253,585,768 compared with $215,554,823 in November, 1938, and $254,036,126 in November, 1930—17.6 per cent above the former but 0.2 per cent below the same month in 1930. Passenger revenues totaled $25,020,990 compared with $25,941,017 in November, 1938, and $41,451,310 in November, 1930—3.5 per cent below the former and 39.6 per cent below the same month in 1930.

Effective Date of Refrigerator-Car Policy Postponed

Chairman W. C. Kendall of the Association of American Railroads' Car Service Division has notified all railroads of the further postponement from December 31 to March 31, 1940, of the effective date of the circular letter issued May 5, relating to furnishing refrigerator cars for the transportation of perishables. The text of the circular was published in the *Railway Age* of June 3, page 960.

The further extension of the effective date, Mr. Kendall says, is "to give additional time for negotiations which are being progressed as rapidly as practicable for disposition of private line equipment."

"Fortune" Pays Respects to Baldwin's "First 108 Years"

The 108-year history of the Baldwin Locomotive Works and the present character of its Locomotive division and varied subsidiaries are described by "Fortune" in the December issue with its usual completeness and understanding. The 13-page article not only traces the firm's development since Matthias Baldwin put together his first "locomotive engine" but as well analyzes the current status of the organization, its plants, products, personnel, corporate status and influence in the railroad field. Colored and half-tone photographs fully supplement the text, and a colored "cab-analysis" of Santa Fe's Baldwin-built locomotive No. 5001 dissects the complexities of levers and gages for the layman.

Motor Carrier Affiliates Seek I. C. C. Authority

The Pennsylvania Greyhound Lines, affiliate of the Pennsylvania, has asked the Interstate Commerce Commission for authority to guarantee $150,000 of 10-year bonds or notes, to be issued by the owners or operators of lunch stands and rest stops used by the company. The proceeds will be used to construct new lunch stands and rest stops.

The Norfolk Southern Bus Corporation, affiliate of the Norfolk Southern, has asked the Interstate Commerce Commission for authority to purchase the business and good-will of the Virginia - Caroline Transportation Company, operating as a transporter of property by motor carrier between Norfolk, Va., and New Bern, N. C., via Elizabeth City, Edenton, Plymouth, and Washington, and between Plymouth, N. C., and Columbia.

Unemployment Insurance Rules for Employee Representatives

Regulations governing contributions and reports under the Railroad Unemployment Insurance Act by employee representatives have just been published by the Railroad

Retirement Board, effective as of October 1. The regulations are generally similar to those on contributions by covered employers, published October 24.

An employee representative is an officer or official representative of a railway labor organization, other than one which is a covered employer, who is authorized to represent employees in accordance with the Railway Labor Act. He must have been at some time in the service of a covered employer. Also classed as employee representatives are individuals regularly assigned to or employed by such officers or official representatives in connection with the duties of their office.

Santa Fe Donates Miniature Railway System to Museum

The Atchison, Topeka & Santa Fe has donated a large electrically-operated miniature railway system to the Chicago Museum of Science and Industry. The exhibit is now being constructed by Minton H. Cronkite of Pasadena, Cal., a miniature railway builder, and will be completed about May 1, 1940. The exhibit will be in continuous operation and will show not only the Santa Fe system but the many industries which it serves. Miniature freight trains, lightweight streamlined passenger trains and standard steam type passenger trains will run over a double track railway representing the Santa Fe's main line from Chicago to the Pacific Coast and to the Gulf of Mexico. The entire railroad will be operated electrically from a centralized traffic control board and will occupy about 5,000 sq. ft. of floor space in the railroad transportation section of the museum.

Club Meetings

The Railway Club of Pittsburgh will hold its next meeting on December 28 at the Fort Pitt hotel, Pittsburgh, Pa. M. R. Reed, member of the U. S. Railroad Retirement Board, Washington, D. C., will present a paper entitled "The Railroad Retirement and Unemployment Insurance Acts and Their Administration by the Board." A dinner for members and guests will precede the meeting.

The Canadian Railway Club will hold its annual meeting January 8 at the Windsor hotel, Montreal, Que. W. G. Roberts, Goodyear Rubber Company, will present an illustrated paper on rubber.

The Northwest Car Men's Association will hold its next meeting January 5 at the Midway club, St. Paul, Minn. The meeting will be devoted to a discussion of changes in new A.A.R. Rules of Interchange, effective January 1, 1940, conducted by J. E. Mehan, assistant to superintendent car department, Chicago, Milwaukee, St. Paul & Pacific, Milwaukee, Wis.

Contract Truckers Want More Time on I. C. C. Questionnaire

The Contract Carrier Division of American Trucking Associations, Inc., has asked the Interstate Commerce Commission to postpone from January 15, 1940, to April 15, 1940, the deadline-date for the filing of returns to the questionnaire issued in connection with the Ex-Parte No. MC-27 investigation of Central Territory contract carrier rates. The filing of the returns to the questionnaire was required by the recent six-to-five decision (reviewed in the *Railway Age* of December 2, page 858) wherein the commission also ordered that contracts showing actual as well as minimum charges of contract truckers be opened to public inspection after April 1, 1940.

The petition for the postponement of the date for filing returns to the questionnaire asserts that it is the petitioner's honest belief that a vast majority of the respondents do not know how to answer the questions asked, and cannot obtain such information in time to complete answers by January 15. Many contract truckers, it goes on, have advised the Division that the information will have to be obtained from records of their shippers, and that it will be impossible within the present time limit to go through such records and complete the return.

Black Tom Decision is Attacked in Court

The United States District Court for the District of Columbia was told on December 14 by former Attorney General William D. Mitchell, representing the Lehigh Valley, that it had no jurisdiction to set aside the recent $50,000,000 award made by the German-American Mixed Claims Commission to the victims of the Black Tom and Kingsland munitions explosions in 1917. The Lehigh Valley's share in the total award was $9,900,322. Shortly after the commission's award on October 30, the Z. & F. Assets Realizations Corporation of New York City attacked the legality of the commission in an injunction proceeding in the District Court for the District of Columbia.

The Lehigh Valley asked the court to award it summary judgment, under the new federal rules for civil procedure, and to sustain the commission's action. Joseph H. Proskauer, former New York State Supreme Court justice, appearing for the Z. & F. Corporation, told the court that the award had "no more validity than a piece of paper."

Atlantic States Shippers Board to Meet January 16 and 17

The Atlantic States Shippers Advisory Board will hold its 16th annual meeting at the Benjamin Franklin hotel, Philadelphia, Pa., January 16 and 17. The first day will be devoted to preliminary committee meetings for consideration of legislative matters, and freight loss and damage. The regular meeting the following day will consider, among others, the subject of simplification of freight tariffs; establishment of a school on improved methods of packing and shipping; functions of an emergency port transportation committee to prevent congestion in Atlantic seaboard points; problems of procedure in rate matters by shippers in connection with established railroad committees and a proposal by shippers for free transportation of dunnage, bracing and blocking materials.

The annual meeting of the Philadelphia Traffic Club will be held on the evening of January 16 at the close of the first day's session of the board meeting. It is expected that the conjunction of the two affairs will bring a joint attendance of well over 1,000 transportation and traffic men.

Signal Section to Hold Annual Meeting October 8-10

The Signal Section of the Association of American Railroads will hold its 46th annual meeting at the Wardman Park hotel, Washington, D. C., October 8 to 10, inclusive. Officers of the section for 1940 have been selected as follows: Chairman, J. S. Gensheimer, superintendent telegraph and signals, Pennsylvania, New York; First Vice-Chairman, G. K. & Santa Fe, Topeka, Kansas; Second Thomas, signal engineer, Atchison, Topeka Vice-President, C. A. Taylor, superintendent telegraph and signals, Chesapeake & Ohio, Richmond, Va. J. H. Oppelt, superintendent telegraph and signals, New York, Chicago & St. Louis, Cleveland, Ohio; S. W. Law, signal engineer, Northern Pacific, St. Paul, Minn.; and W. J. Eck, assistant to president, signal and electrical department, Southern, Washington, D. C., have been elected new members of the committee of direction for the term January 1, 1940, to December 31, 1943, inclusive.

Annuities and Pensions in Force November 30

Claims in force under the Railroad Retirement Act at the end of November totaled 137,634 and amounted to $8,662,207 a month, according to the latest issue of the Railroad Retirement Board's "Weekly Review." There were 1,234 more claims in force than at the end of October and the total monthly amount payable was $83,506 higher. The net addition was the largest since May.

Annuities payable to eligible employees under the old age and disability provisions of the Act continued to increase. At the end of November they constituted 70.5 per cent of the total number of claims in force as compared with 70.1 per cent at the end of the preceding month, 68.2 per cent at the end of June, and 58.1 per cent at the end of June, 1938. On the other hand, pensions payable under the 1937 act to former pensioners of the railroads decreased, constituting 27.5 per cent of total number of claims in force at the end of November, 28 per cent at the end of October, 29.9 per cent at the end of June and 40.6 at the end of June, 1938. The proportion of survivor annuities in force has increased from 0.7 per cent at the end of June, 1938, to 1.5 per cent at the end of November, 1939. The percentage of death benefit annuities decreased from 0.6 to 0.5 in the same period.

Demurrage During Strike

Reversing a decision of Division 2, the Interstate Commerce Commission has found unreasonable the application of the full demurrage charges against cars tied up at Portland, Ore., Longview, Wash., Seattle and Tacoma during a longshoremen's strike. Following the rule of its recent decision involving a similar situation during a "sit-down" strike at plants of the Chrysler Corporation, the commission found that proper compensation would

be the $1 per diem which the carriers pay each other for rental of cars plus 20 cents to cover extra expenses of the "unusual situation"—a total of $1.20 per day per car, without the usual allowance of free time. The demurrage charge is $3 per day.

Commissioner Splawn dissented and Commissioner Patterson agreed with him while Commissioner Aitchison wrote a separate concurring opinion and Commissioner Caskie concurred in part. The latter agreed that the shipper should be relieved of penalty charges, but thought that the $1.20 per diem charge should not be made for the usual free time authorized by the tariffs. The case is docketed as No. 27217. Division 2's decision, the present majority report points out, had failed to find the application of normal demurrage charges unreasonable because "it feared that any relief given complainants would encourage inaction on the part of shippers in such situations and sanction practices which would tend to congest terminals;" also, the Division thought the record inadequate "to afford a basis for determining what portion of the $3 charge represented penalty."

September Accident Statistics

The Interstate Commerce Commission's completed statistics of steam railway accidents for the month of September now in preparation for the printer, will show:

Item	Month of September 1939	1938	9 months ended with September 1939	1938
Number of train accidents	559	525	4,228	4,165
Number of casualties in train-service and nontrain accidents:				
Trespassers:				
Killed	241	238	1,807	1,794
Injured	222	242	1,843	1,959
Passengers on trains:				
(a) In train accidents*				
Killed	..	8	11	52
Injured	171	67	586	360
(b) In train-service accidents				
Killed	1	..	8	13
Injured	129	139	1,269	1,388
Travelers not on trains:				
Killed	1	..	8	6
Injured	68	51	593	550
Employees on duty:				
Killed	41	46	364	358
Injured	1,557	1,419	12,229	11,801
All other nontrespassers:**				
Killed	120	128	1,047	1,103
Injured	416	438	3,750	3,904
Total—All classes of persons:				
Killed	404	420	3,245	3,326
Injured	2,563	2,356	20,270	19,962

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Number of accidents	260	259	2,274	2,340
Persons:				
Killed	108	109	960	1,009
Injured	286	298	2,633	2,706

Equipment on Order and Installed

Class I railroads had 36,198 new freight cars on order on December 1, the largest number at any one time since August 1, 1937, when there were 38,089 cars on order, the Association of American Railroads announced on December 18. On November 1, this year, they had 28,931 new freight cars on order and on December 1, 1938, there were 4,335. Of the new freight cars on order on December 1 this year, 22,646 were coal cars, 12,236 were box cars and the remainder were miscellaneous cars, such as refrigerator, stock and flat cars.

In addition, Class I roads on December 1 had 44 new steam locomotives and 71 new electric and Diesel-electric locomotives on order compared with 64 steam and 72 new electric and Diesel-electric locomotives on order on November 1. On December 1, 1938, there were 17 steam and 39 new electrics and Diesel-electrics on order.

Class I roads in the first 11 months of 1939 put in service 20,085 new freight cars, of which 11,279 were box and 7,776 were coal cars. There also were put in service in that period 666 flat cars, 160 stock cars and 119 refrigerator cars along with 85 miscellaneous cars. In the same period last year 14,947 new freight cars were put in service.

Also in the first 11 months 216 new electric and Diesel-electric locomotives and 94 new steam locomotives were put in service, compared with 103 electrics and Diesel-electrics and 162 steam locomotives put in service in the same period last year.

Freight cars and locomotives leased or otherwise acquired are not included in the above figures.

Florida Towns Praise Railroads and Their Founders

The Florida League of Municipalities, at its convention held in Orlando December 8, adopted a resolution in honor of the founders of the state's three trunk line railroads, praising present railroad service and seeking to encourage increased patronage of railroad facilities.

The resolution statement referred to Henry B. Plant, organizer of the Plant system, predecessor of the Atlantic Coast Line, Henry M. Flager, builder of the Florida East Coast and pioneer Florida hotel promoter, and S. Davies Warfield, who assisted in the organization of the Seaboard Air Line and later served as its president and chairman of the board, as the discoverers of "the economic, social and resort potentialities of Florida . . . who supported their convictions by investing millions of dollars in providing railroad transportation to all parts of the state." It then went on to give recognition to the successors of this triumvirate as reflected in "the fastest freight and speediest and most luxurious passenger services in the nation" and to the railroads as "the most substantial taxpayers today."

The league voted that the officers of the railroads serving the state be informed of the resolution sentiment and that there be urged upon the public "the necessity of liberal patronization of these excellent transportation facilities in appreciation of the millions of dollars brought into the state through the faith of its railroads."

Victorian Truck Competitive Problem Very Similar to Our Own

H. W. Clapp, chairman, Victorian (Australia) Railway Commissioners until last July (he spent 20 years in the United States in railroad electrification work prior to 1920), in his annual report for the year ended June 30, blames diversion of traffic from the railroad principally on the low rates of the highway haulers and on the rigid rate structure of the railroads. The low competitive rates quoted by highway operators, he claims, depend not only on overloading, over-speeding and unfair conditions of labor for their maintenance but also upon the ability of the operators to obtain a return haul, even though the revenue therefrom be less than compensatory. He points out that truck charges for livestock are generally quoted per head of livestock and over-crowding of animals therefrom is not uncommon. Even in the transportation of gasoline, a dangerous commodity, over-loading, over-speeding and excessive hours of work are the factors upon which the operators depend to continue their competition.

Mr. Clapp also attributes highway competition to what he terms "the incidence of the railway rating structure." In this connection he points out that railroad rates in Victoria are based broadly upon the value of the commodities to be carried and designed to meet the total costs of operation. The rates for agricultural and other primary products are very low, and compensatory higher rates are necessary for other more valuable commodities. The road haulers, therefore, being free to take or leave loading as it suits them, offer rates below the standard railway charges for the higher-rated goods, while they bear none of the responsibilities which the railways accept for handling a large tonnage of low-rated traffic.

Public Affairs Group Joins Anvil Chorus vs. "Highway Barriers"

That individual states have no right to stipulate what types of vehicles shall traverse their highways, but rather that all must maintain "main line" highway standards and abandon restrictions to protect "branch line" arteries from damage is evidently the considered opinion of the Public Affairs Committee, a "nonprofit educational organization," or at least of Professor F. E. Melder, of Clark University, whose booklet, "State Trade Walls", the Committee has just issued as the 37th in a series of pamphlets "to make available in summary and inexpensive form the results of research on economic and social problems." Holding "restrictions imposed against trucks moving from state to state" as one of the most undesirable of the interstate barriers, the pamphlet presumes lack of uniformity of motor vehicle laws and failure of states to grant reciprocity to be contrary to the public interest *per se.* It admits, however, that "because the states pay most of the bills for constructing and maintaining the highways, they feel free to say how these roads shall be used."

It is the opinion of the author that interests involved make it difficult to eliminate the "barriers." Of these he cites local truck operators and "the powerful railroad lobbies" which "will fight to continue the measures which hamstring their interstate truck competitors."

Hope is seen, however, in Congress and federal administrative agencies which, through their control of grants in aid to the states for highway construction, "could bring pressure on the states to standardize

their dimension and equipment requirements for interstate trucks—at least for trucks using state highways built with federal assistance."

Freight Car Loading

Freight carloadings for the week ended December 16 totaled 681,166 cars, the Association of American Railroads announced on December 21. This was a decrease of 6,099 cars, or 0.9 per cent below the previous week, but an increase of 75,163 cars, or 12.4 per cent above the corresponding week in 1938, and an increase of 80,883 cars, or 13.5 per cent, compared with the corresponding 1937 week.

As reported in last week's issue, the loadings for the previous week ended December 9 totaled 687,265 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

For Week Ended Saturday, December 9

Districts	1939	1938	1937
Eastern	146,319	131,962	132,448
Allegheny	149,858	114,316	108,270
Pocahontas	47,665	43,168	45,163
Southern	102,025	95,456	98,604
Northwestern	82,002	75,869	73,571
Central Western	107,919	108,085	106,596
Southwestern	51,477	50,108	54,614
Total Western Districts	241,398	234,062	234,781
Total All Roads	687,265	618,964	619,266
Commodities			
Grain and grain products	38,310	34,413	34,588
Live stock	14,971	14,546	14,731
Coal	128,516	127,841	157,573
Coke	12,038	6,754	6,430
Forest products	34,996	28,043	26,717
Ore	11,858	10,281	8,665
Merchandise l.c.l.	154,216	151,328	150,238
Miscellaneous	292,360	245,758	220,324
December 9	687,265	618,964	619,266
December 2	688,888	648,534	620,325
November 25	676,516	561,658	555,762
November 18	771,404	657,066	644,927
November 11	785,961	636,446	685,926
Cumulative Total, 49 Weeks	32,216,506	28,777,422	36,157,454

In Canada.—Carloadings for the week ended December 9 totaled 50,390, an increase of 7,222 over 1938 loadings and a decrease of 4,725 from the previous week's total, according to the summary of the Dominion Bureau of Statistics.

Total for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
Dec. 9, 1939	50,390	26,531
Dec. 2, 1939	55,115	26,689
Nov. 25, 1939	59,761	25,009
Dec. 10, 1938	43,168	23,103
Cumulative Totals for Canada:		
Dec. 9, 1939	2,417,844	1,126,855
Dec. 10, 1938	2,320,944	1,012,464
Dec. 11, 1937	2,504,456	1,288,364

Report on Maritime Commission's Intercoastal Rate Probe

Intercoastal steamship rates should be held exactly where they are in the expectation that the water carriers involved may through voluntary association and individual action "build up a stable rate structure based on sound principles of rate making," according to the recommendations of Examiner Robert M. Murniss' proposed report on the United States Maritime Commission's general investigation of the intercoastal rate structure. The examiner would, however, have the commission find present port equalization rules unreasonable, and assign the case for further hearing for the sole purpose of determining a uniform mixing rule for application over all respondents' lines.

Other recommended findings are: That the record fails to warrant issue of any minimum rate order; that the respondents' system of proportional rates is not unlawful, without prejudice to future conclusions that may be reached in proceedings involving specific rates; and that the practice of absorbing the costs of on-carriage to ports never or seldom served is not unlawful.

It is in the discussion of his recommendation against a minimum rate order that the examiner makes the aforementioned suggestion that the carriers should get together. "Failing in this," Mr. Furniss goes on, "the commission's power of suspension, and minimum rate jurisdiction plus the continuing right of parties to file complaints are ample assurances that destructive rate wars and instability of rates are things of the past, and that unreasonably low rates will be identified and condemned."

The title case is docketed as No. 514, being the general investigation instituted by the Maritime Commission upon its own motion "concerning the lawfulness of rates, charges, rules, regulations and practices of common carriers subject to the Intercoastal Shipping Act . . . for and in connection with the transportation of property by way of the Panama Canal. . . ."

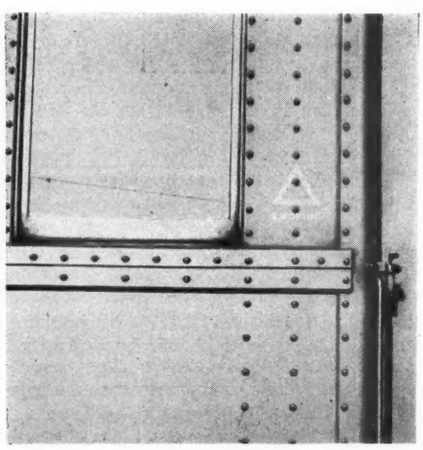
"War Situation" Precludes Sale of Federal Barge Lines Now

Although he believes that the "mission" of the Federal Barge Lines "is about fulfilled," Assistant Secretary of Commerce J. Monroe Johnson nevertheless thinks that the federal government would be unwilling to dispose of them until the "war situation" is adjusted. Such was the reply written by Mr. Johnson to John M. Flynn, vice-president of the Gulf Carloading Company of New Orleans, La., who had asked Secretary of Commerce Hopkins about the possibility of purchasing the Lines' operating company—the government-owned Inland Waterways Corporation.

Meanwhile Chester C. Thompson, successor to the ousted Major General T. Q. Ashburn in the I. W. C. presidency, has announced that shortly after January 1, 1940, the executive offices of the corporation will be moved from Washington, D. C., to St. Louis, Mo. The transfer will apply to the president, secretary-treasurer, administrative assistant and a small staff; it was described as a move which "meets our desire to have the executive staff on the scene of the Corporation's activities, rather than operating by remote control." Still on his tour of the territory served by the barge lines, Mr. Thompson was last week elected chairman of the board and president also of the Warrior River Terminal Company, I. W. C. subsidiary, at a special meeting of the former's board of directors in Birmingham, Ala. At the same meeting the Terminal Company declared a cash dividend of $150,000 which goes to I. W. C.

In addition to the aforementioned expression of his view that the government would not want to sell I. W. C. at this time, Assistant Secretary Johnson told Mr. Flynn that the Department of Commerce (to which I. W. C. was transferred from the War Department last July 1 by one of President Roosevelt's government-reorganization orders) had received several communications on the subject of acquiring the corporation by private interests. "Of course," he goes on, "as you may know, since it has come to Commerce the first of July, we have been busy with other phases. From time to time, however, I have discussed the eventual disposition to private interests of the Federal Barge Lines, as was and is the intention of Congress, and in which the Department of Commerce is in thorough accord. When the definite policies and procedures in the new administration of the barge lines are determined, this question will be given further consideration."

* * *



It's Pretty Faint in the Above Picture, But Close Inspection Will Disclose the Triangle Which the New Haven Paints on the Sides of its Suburban Cars to Indicate Smokers

The Interior of Grand Central is No Place to Photograph a 2-Inch Orange Sign on a Green Car Side

R. E. A. Employee Gets Bravery Award

Upon the recommendation of the Committee on Award of Medals of Honor, approved by the Interstate Commerce Commission, President Roosevelt has awarded a medal of honor to O. P. Scharf of Anna, Ill. The medal was awarded under the Act of February 23, 1905, which provides for bronze medals of honor to be awarded for outstanding feats of bravery in connection with the saving of life upon railroads.

The act which resulted in this award, according to the commission, was performed on May 3, 1939, at Anna, Ill., on the Illinois Central at about 5:50 a. m. On that date, A. H. Rendleman, an infirm man of 71 years of age, was walking northward on the southward track in front of Anna station; he was engaged in picking up coal and placing it in a basket which he carried. On account of impaired vision and hearing, he failed to note that No. 9, a south-bound passenger train, was approaching on the same track at a speed of 25 or 30 m. p. h.

Mr. Scharf, a chauffeur-clerk for the Railway Express Agency, was working on the station platform and observed No. 9 approaching when the train was about 275 ft. distant. Scharf shouted to Rendleman,

so the account states, but the latter did not heed the warning. When the train was a little more than 100 ft. distant and Rendleman was in imminent danger, Scharf ran across the northward track and the wooden runway to the southward track, a distance of about 40 ft., over irregular footing, pushed the aged man westward from the track to the ground, and held him prone until the train stopped. It was pointed out that the weather was clear at the time of the act.

The announcement of the commission also states that 46 medals of this character, including this one, have been awarded since the enactment of the Medals of Honor Act in 1905.

Railroad Motor Carriers Get I. C. C. Authority

Division 5 of the Interstate Commerce Commission has authorized the Indiana, an interurban electric line, to operate as a common carrier by motor vehicle of general commodities between Fort Wayne, Ind., and Indianapolis and between Indianapolis, Ind., and Terre Haute over specified routes, with service to certain intermediate and off-route points. As in several previous cases where railroads have asked permission to extend their motor carrier operations to meet highway competition, Commissioner Rogers noted a dissent, but stated no reasons for so doing.

The Santa Fe Trail Transportation Company, a motor carrier affiliate of the Atchison, Topeka & Santa Fe, would be authorized to operate as a common carrier by motor vehicle of general commodities between Bonner Springs, Kans., and Kansas Highway 10, over Kansas Highway 7, and between the junction of U. S. Highway 50-S and Kansas Highway 150, on the one hand, and the junction of U. S. Highway 50-S and 77, on the other, over regular routes, if the Interstate Commerce Commission adopts a recommended report of Joint Board No. 52, composed of Richard B. McEntire of Kansas.

In another case the Rock Island Motor Transit Company, a wholly-owned motor carrier subsidiary of the Chicago, Rock Island & Pacific would be authorized to operate as a common carrier by motor vehicle of general commodities from Silvis, Ill., to Chicago, and return, via Yorktown, Mendota, and Aurora, over Illinois Highways 2 and 92 and U. S. Highway 34, if the commission adopts a proposed report of Joint Board No. 149, composed of George W. Anderson of Illinois.

The Railroads Observe Christmas

Practically every large passenger-carrying railroad in the country is marking the Christmas holiday season with some special feature,—be it station and car decorations, Christmas excursions, musical programs or otherwise. Just a few examples of the new holiday "stunts" of which the *Railway Age* has received notice from railroad publicity offices will serve to show the range of the carriers entering into the spirit of things,—and, incidentally gaining public good-will.

So successful was the pre-Christmas caroling program for Boston & Maine commuters last year (some 25,000 of them participated) that this year, it was not only intensified, but a new feature added. During the week just passed, B. & M. commuters, after singing carols in the concourse of Boston's North station between 5 and 5:30 p. m., while waiting for their trains, were able to turn on their radios at home each evening at 10:45 to hear their own singing broadcasted from recordings over Station WEEI. As last year, an organ installed in the station carried the tunes while a stereopticon cast the words of Yuletide favorites on a large screen erected over the organ platform. Also, the caroling commuters are scheduled to broadcast direct from the station to their home folks over the air.

Pennsylvania station was the scene of most unusual pageantry (at least for a railroad station) on December 21. At 6 p. m. on that day, the lights were dimmed while the 70 members of the Branscombe Choral Society, dressed in holly-red robes and Canterbury caps, proceeded through the great building with lighted candles to the steps on the south side of the main concourse. Here they presented a group of Christmas carols to the accompaniment of an electric organ.

Organ music has filled the concourse area of Grand Central terminal, New York, during the past few weeks, while the largest holly-wreath in the city, brilliantly lighted, added a new touch to the station's holiday atmosphere.

Construction

ATCHISON, TOPEKA & SANTA FE.—A contract has been awarded the Sharp & Fellows Contracting Company, Los Angeles, Cal., for the construction complete of ten miles of standard track east from Loving, N. M., to a new mine of the Union Potash & Chemical Company.

ATLANTIC COAST LINE.—This company has asked the Interstate Commerce Commission to extend to January 1, 1940, and March 31, 1940, the time of commencing and finishing the construction of a line of railroad in Columbus County, N. C.

ERIE.—The New York Public Service Commission has approved a low bid of $306,906, submitted by the Lane Construction Corporation, Meriden, Conn., for the elimination of the Seamansville, Brooks and Main street crossings of the Erie in the village of Monroe, N. Y. The commission has directed the Department of Public Works to award the necessary contract and begin the work as soon as practicable.

GREAT NORTHERN.—A contract amounting to approximately $20,000 has been awarded to N. A. Degerstrom, Spokane, Wash., for reinforcing a dam across Moses Coulee near Wenatchee, Wash. The reinforcing work consists of the construction of a reinforced concrete mat over the dam and the placing of riprap at several points along the shore of the stream. The dam, which was constructed between the Great Northern bridge across Moses Coulee and the Columbia River, serves to prevent the swift current of Moses Coulee from undercutting the piers of the bridge.

LEHIGH VALLEY.—A low bid of $56,454, submitted by A. R. Menzies, Kenmore, N. Y., for the elimination of the Alden-Crittenden county road crossings of this railroad in the Town of Alden, N. Y., has been approved by the New York Public Service Commission. The commission has directed the Department of Public Works to award the necessary contract and begin the work as soon as practicable.

PENNSYLVANIA.—A contract amounting to $137,630 has been awarded to the Power - Thompson Construction Company, Joliet, Ill., for the construction of a highway bridge on State Route No. 6 over the tracks of the Pennsylvania in Hobart, Ind. The bridge will have two sidewalks and will consist of four reinforced concrete girder spans 36 ft. long, two reinforced concrete girder spans 50 ft. 7 in. long and one steel beam span 60 ft. 9 in. long, supported on concrete bents and abutments. Included in the contract is approximately 0.7 of a mile of approach grading and paving.

SOUTHERN PACIFIC.—A contract amounting to $265,960 has been awarded P. J. Tyler, Oroville, Cal., for the construction of grade separation structures under three tracks of the Southern Pacific and Alma street on University avenue in Palo Alto, Cal. Other additional work, which includes a change in location of about 81 ft. and a raise in grade of about 5 ft. for the two existing tracks, the construction of a third track, the construction of a new station, baggage room and parking area, the widening of Alma street and the construction of one-way access lanes connecting Alma street and University avenue will make the combined cost of the project about $400,000. The railroad structures will be ballast-deck continuous-span steel beam bridges supported on reinforced concrete piers and abutments which are supported, in turn, on creosoted piles. The project will provide two 25-ft. traffic lanes separated by a 6-ft. landscaped island strip on University avenue and a roadway 45 ft. wide for Alma avenue over University avenue.

TEXAS & PACIFIC.—A contract amounting to approximately $40,000 has been awarded the Cedric Burgher Construction Company, Dallas, Tex., for remodeling the passenger station at Marshall, Tex. This work, in addition to the construction of a train shed and pedestrian subways which was reported in the *Railway Age* of September 30, and with track changes and other incidental work to be done by railway forces, will bring the total cost of improvements at this point to approximately $150,000.

UNION PACIFIC.—A contract has been awarded J. T. Halin, Spokane, Wash., for the construction of a brick and concrete warehouse in that city. The building will be 65 ft. wide by 60 ft. long, with offices on the second floor along the east end.

The floors and foundation will be constructed of reinforced concrete and the exterior walls of brick with overhead type warehouse doors, steel sash and wire glass. The total cost of the warehouse will be approximately $40,000.

Equipment and Supplies

Cotton Belt Budget Approved

A budget providing for the expenditure of $2,082,754 for additions and betterments on the St. Louis Southwestern in 1940, was approved by the federal district court on December 15. The amount includes $562,022 for freight cars to be built in company shops and $243,088 for rails ordered last October.

LOCOMOTIVES

THE CHICAGO, BURLINGTON & QUINCY has ordered 10 locomotives of the 4-8-4 type from its own shops.

THE PANAMA CANAL has ordered five 2-6-0 type locomotives from the American Locomotive Company. These locomotives will have 18 in. by 26. in cylinders and a total weight in working order of 170,000 lb.

FREIGHT CARS

THE LAKE TERMINAL has ordered 100 gondola cars of 70 tons' capacity, from the American Car & Foundry Co. Inquiry for this equipment was reported in the *Railway Age* of November 11, page 769.

THE AMERICAN CAR & FOUNDRY CO. has been authorized by the Interstate Commerce Commission to construct five additional fusion-welded tank cars for experimental service in the transportation of petroleum products.

THE AMERICAN CAR & FOUNDRY CO. AND THE GENERAL CHEMICAL COMPANY have been authorized by the Interstate Commerce Commission to construct four tank cars with riveted aluminum alloy tanks for experimental service in the transportation of 95 per cent nitric acid.

PASSENGER CARS

THE RICHMOND, FREDERICKSBURG & POTOMAC has ordered six steel baggage express cars, 70 ft. long, from the American Car & Foundry Co.

SIGNALING

FLORIDA.—Sealed bids will be received at the State Road department of Florida, office at Tallahassee, until 10:30 a. m., January 11, for furnishing all materials and installing one flashing light signal on the Atlanta & Saint Andrews Bay Railway. J. H. Dowling is State Highway engineer, Tallahassee.

Supply Trade

Thomas E. Scully has been appointed representative of the **Chicago Railway Equipment Company,** Chicago.

I. N. Kimsey, salesman in the Akron sales division of **The B. F. Goodrich Company,** Akron, Ohio, has been appointed manager of that division and **R. A. Charlton,** on the sales staff at Akron, has been appointed assistant manager of the Akron sales division. **J. S. Gulledge,** in the Akron sales division, has been appointed manager of the St. Louis, Mo., district, and **A. M. Fiala,** salesman in the Akron sales division, has been appointed product sales manager of the Air-Cell division, devoted to sales of the company's new latex cushioning material.

James E. Davenport has been appointed assistant to vice-president-engineering, **American Locomotive Company,** with office at New York and with such duties as may be assigned to him, effective January 1. Mr. Davenport was born at Charlestown, W. Va., on October

James E. Davenport

8, 1887. He was graduated from the Georgia School of Technology with a B. S. in M. E., in 1908, and a B. S. in E. E. in 1909. Mr. Davenport entered railway service in 1909 as a special apprentice at the West Albany, N. Y., shops of the New York Central and his entire career has been with that road. From 1912 to 1914, he was enginehouse foreman at North White Plains, N. Y., then to 1917 was dynamometer car engineer. During 1917 and 1918 he was trainmaster on the Harlem division and then to 1920, served in a similar position on the Mohawk division. From 1920 to 1923 he was engineer, dynamometer tests and then to 1926, superintendent, fuel and locomotive performance. He served in 1926 and 1927 as superintendent of the Adirondack division, then for the next three years as superintendent of the River division and in 1930 was appointed assistant to assistant general manager. In 1931 Mr. Davenport was appointed assistant to executive vice-president and since 1936 served as assistant chief engineer of motive power and rolling stock. Mr. Davenport served from 1927 to 1928 as president of the International Railway Fuel Association.

Financial

APALACHICOLA NORTHERN.—*Dismissal of Application for R.F.C. Loan.*—Division 4 of the Interstate Commerce Commission, at this company's request, has dismissed its application for commission approval of a loan of $800,000 from the Reconstruction Finance Corporation. The application was filed with the commission on August 26, 1939.

ARKANSAS VALLEY INTERURBAN.—*Dismissal of Abandonment Application.*—Division 4 of the Interstate Commerce Commission in finance docket No. 12396, has dismissed, at the company's own request, its application for authority to abandon its entire line in Kansas.

CENTRAL OF NEW JERSEY.—*Reorganization.*—Division 4 of the Interstate Commerce Commission has authorized Eugene S. Brooks, Steele DuBosque, Nicholas S. Hall, and Harland J. Maynard, Jr., to serve as a protective committee for holders of four and five per cent general mortgage bonds of this company in reorganization proceedings under section 77 of the Bankruptcy Act, and to solicit authorizations to represent the holders of these bonds.

CHICAGO, ROCK ISLAND & PACIFIC.—*Abandonment and Operation.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to (1) abandon a line extending from Orion, Ill., to Milan, 12.8 miles, and (2) to operate, under trackage rights, over a line of the Chicago, Burlington & Quincy between Orion, Ill., and Colona, 10 miles.

ELGIN, JOLIET & EASTERN. — *Equipment Trust Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $4,250,000 of 2½ per cent serial equipment trust certificates, maturing in 10 equal annual installments of $425,000 on December 1 in each of the years from 1940 to 1949, inclusive. The issue has been sold at 104.6256 to a group comprised of the Mellon Securities Corporation, Lazard Freres & Co., and Estabrook & Co., making the average annual cost of the proceeds to the company approximately 1.62 per cent.

FORDYCE & PRINCETON.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon its Midway branch extending from valuation station 00x00 to station 158x40, three miles, all in Dallas County, Arkansas.

GREAT NORTHERN.—*Dismissal of Application.*—Division 4 of the Interstate Commerce Commission in finance docket No. 11403, has dismissed, at the company's own request, its application for authority to operate under trackage rights, construct connecting tracks, and abandon lines of railroad in Wilkin County, Minn., and Richland County, N. Dak.

KISHACOQUILLAS VALLEY. — *Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce

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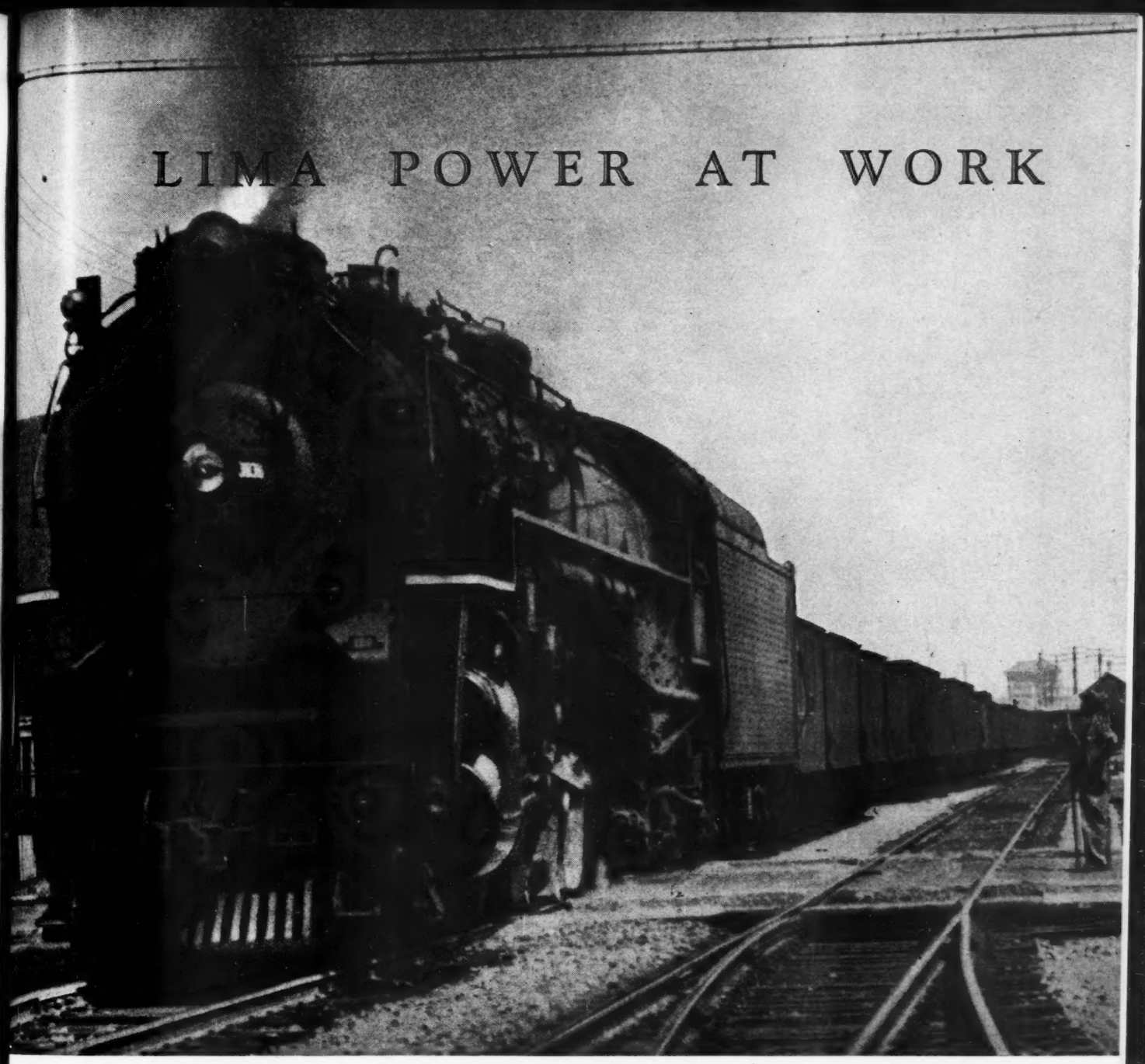

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INCORPORATED, LIMA, OHIO

Commission to abandon, as to interstate and foreign commerce, its entire line extending from Belleville, Pa., to Reedsville, 9.2 miles, and to abandon operation under trackage rights over a line of the Pennsylvania from Reedsville, Pa., to Lewistown, seven miles.

LEHIGH VALLEY.—*Pledge of Bonds.*—This company has been authorized to extend for two years from December 31, 1939, the time in which it may pledge $10,400,000 of general consolidated five per cent bonds as collateral for short term notes evidencing present bank loans.

LITTLE RIVER. — *Abandonment.* — This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon, as to interstate and foreign commerce, its entire line extending from a connection with a line of the Southern at Walland, Tenn., to Forks, 11 miles.

LOUISVILLE & NASHVILLE.—*Abandonment of Operation.*—This company has been authorized to abandon the operation of a portion of its so-called Swan Creek branch extending from Swan Creek Junction, Tenn., westerly to the end of the line near Gordonsburg, 15.4 miles.

MAINE CENTRAL.—*Bonds.*—This company has been authorized to issue $660,000 of general mortgage 4½ per cent series A bonds, due December 1, 1960, which have been heretofore authorized, by delivering them, together with a cash payment of $220,000, to the holders of $973,200 of six per cent secured bonds, in exchange for their bonds.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—*Abandonment by the Wisconsin Central.*—The Wisconsin Central and the Minneapolis, St. Paul & Sault Ste. Marie, respectively, would be permitted to abandon a line and the operation of a line extending from Cylon, Wis., to Glenwood City, 11.5 miles, if the Interstate Commerce Commission adopts a recommended report of its Examiner R. Romero.

MISSOURI PACIFIC.—*Abandonment by the Houston & Brazos Valley.*—The Houston & Brazos Valley has been authorized by Division 4 of the Interstate Commerce Commission to abandon its so-called Brazosport branch extending from Velasco, Tex., southeasterly to Brazosport, 2.8 miles.

NEW YORK CENTRAL.—*Abandonment.*—This company would be authorized to abandon its Stony Clove and Kaaterskill branch, extending from Phoenicia, N. Y., to Kaaterskill, 19.2 miles, and its Hunter branch, extending from Kaaterskill Junction, N. Y., to Hunter, 2.7 miles, if the Interstate Commerce Commission adopts a proposed report of its Examiner Lucian Jordan.

NEW YORK, NEW HAVEN & HARTFORD.—*Boston & Providence Operating deficits.*—The United States circuit court of appeals has upheld a ruling of the federal district court at New Haven, Conn., that the estate of the Boston & Providence, leased line of the New Haven, is liable for operating deficits incurred by the latter in operating the line between June 3, 1936, and December 31, 1937. The higher court rejected, however, the figure of $3,955,000 set by the district court as the B. & P.'s obligation to the operating road, but directed that a further accounting be made to ascertain the just amount which will constitute a lien against the B. & P. property in favor of the New Haven.

The Connecticut district court in 1936 directed the trustees of the New Haven to disaffirm the B. & P. lease but ordered also that it continue to operate the line, charging operating losses to the former lessor. The latter, whose reorganization is in the hands of the Massachusetts federal district court appealed the Connecticut court order, contending that it did not have jurisdiction.

SEABOARD AIR LINE.—*Equipment Trust Certificates and R.F.C. Financing.* — This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $2,250,000 of three per cent equipment trust certificates, maturing in 15 equal annual installments of $150,000 on November 1 in each of the years from 1940 to 1954, inclusive. At the same time Division 4 approved either the purchase or guaranty of the certificates by the Reconstruction Finance Corporation. The commission's order provides that if the certificates are sold to a party or parties other than the R.F.C., the sale must be made under competitive bidding.

SOUTHERN.—*Acquisition.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to acquire the entire properties of the Northern Alabama. The Southern owns all the outstanding securities of the Northern Alabama and has operated it as an integral part of the Southern system since January, 1917.

SOUTHERN PACIFIC. — *Abandonment.* — This company has asked the Interstate Commerce Commission for authority to abandon its Milton branch, extending from Peters, Calif., to Milton, 11.2 miles.

Average Prices of Stocks and Bonds

	Dec. 19	Last week	Last year
Average price of 20 representative railway stocks..	31.20	31.84	30.46
Average price of 20 representative railway bonds..	58.09	58.25	59.96

Dividends Declared

Albany & Susquehanna.—Special, $1.50, payable January 13 to holders of record December 18.

Allegheny & Western.—Guaranteed, $3.00, payable January 1 to holders of record December 20.

Albany & Susquehanna.—$4.50, semi-annually, payable January 1 to holders of record December 15.

Canada Southern.—$1.50, semi-annually, payable February 1 to holders of record December 22.

Camden & Burlington.—75¢, semi-annually, payable January 2 to holders of record December 15.

Chicago, Burlington & Quincy.—$2.00, payable December 26 to holders of record December 16.

Delaware.—$1.00, semi-annually, payable January 2 to holders of record December 15.

Joliet & Chicago. — $1.75, quarterly, payable January 2 to holders of record December 20.

Lackawanna R. R. of New Jersey.—$1.00, quarterly, payable January 2 to holders of record December 12.

Morris & Essex.—$2.13, payable January 2 to holders of record December 12.

Providence & Worcester.—$1.50, payable December 22 to holders of record December 13.

Wheeling & Lake Erie.—$4.00, payable December 27 to holders of record December 26.

Railway Officers

EXECUTIVE

Lynne L. White, vice-president of the Erie in charge of purchasing and development, with headquarters at Cleveland, Ohio, has resigned, effective January 1, to become chief operating officer of the Chicago North Western, with headquarters at Chicago, succeeding to the duties of **Harry M. Eicholtz,** general manager, who will retire on that date. A biographical account of Mr. Eicholtz's career accompanied by a photograph was published in the *Railway Age* February 25, 1939 following his appointment as general manager.

Frederick B. Hank, whose appointment as assistant to vice-president and general manager of the New York Central at New York was reported in the *Railway Age* of December 9, was born on January 5, 1893, at Troy, N. Y. Mr. Hank was graduated

Frederick B. Hank

in civil engineering from Rensselaer Polytechnic Institute in 1915 and entered railway service in November, 1915, as rodman in the engineering department of the New York Central. In 1920 he was appointed assistant engineer in the designing engineer's office at New York, and became assistant designing engineer, lines Buffalo and East, with headquarters at New York, in 1925. Mr. Hank was appointed assistant engineer in the office of the executive vice-president at New York in 1930, the position he held until his recent appointment as assistant to vice-president and general manager.

Effective December 31, **William Atwill,** vice-president in charge of operation of the Illinois Central, who has been on sick leave since March 15, will retire, and **Floyd R. Mays,** general manager, with headquarters at Chicago, has been elected vice-president and general manager, with the same headquarters. Mr. Mays has been general manager and acting head of the operating department since March 15, at which time a biographical sketch of his career accompanied by a photograph was published in the *Railway Age* of April 1.

Mr. Atwill was born in Bothwell, Ont.,

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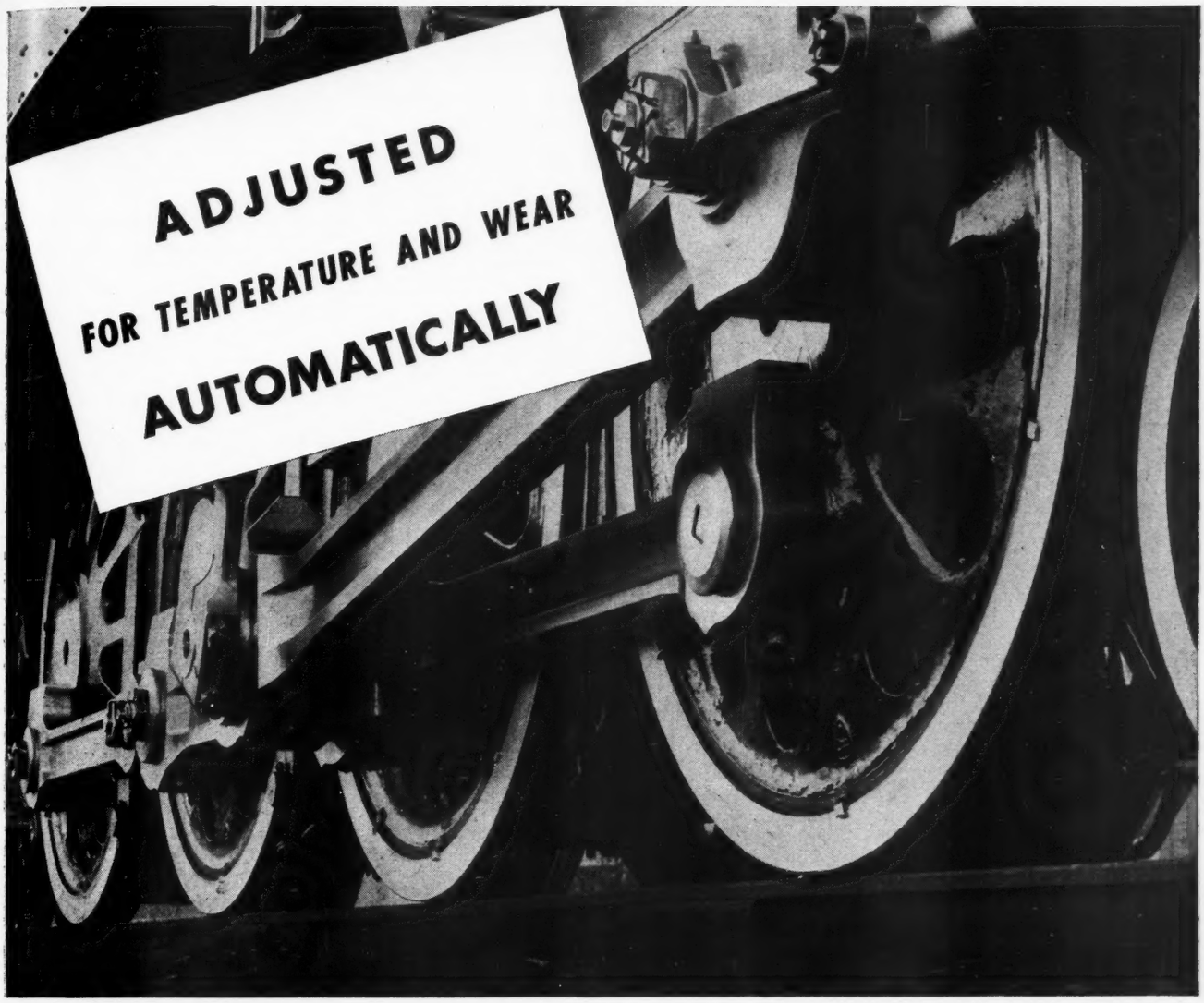
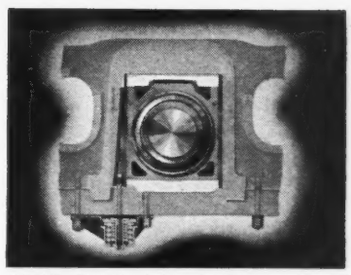
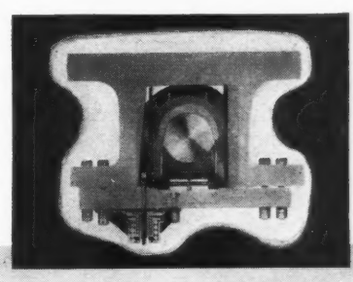


Variations in the driving box temperature, which in some instances are as much as 250° in short periods of time, no longer affect the fit of these driving box wedges. This ever-present problem has been effectively solved by the application of Franklin Automatic Compensators and Snubbers. Now, this locomotive leaves the roundhouse with a snug fit; as the driving box becomes heated the wedge is *automatically* pushed down, keeping a constant, pre-determined adjustment at all times. As the driving box cools, the wedge *automatically* compensates for the contraction. In addition, abnormal shocks are taken care of by a heavy outer spring that acts as a cushion. » » » For constant, accurate adjustment . . . easier riding, prevention of pounds . . . *at any temperature* . . . apply Franklin Automatic Compensators and Snubbers.



ABOVE: Franklin Automatic Compensator and Snubber for Roller Bearing Driving Box application. BELOW: Franklin Automatic Compensator and Snubber for Friction Bearing Driving Box application.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

in 1878, and entered railway service in 1894, as a night telegraph operator on the Illinois Central at Rockford, Ill. He later

William Atwill

served as a train dispatcher on the Chicago & North Western and the Grand Trunk, returning to the Illinois Central in 1901 as a train dispatcher at Dubuque, Iowa. Subsequently he served as chief dispatcher at Cherokee, Iowa, Fort Dodge and Dubuque and in 1907, he was promoted to trainmaster at Fort Dodge. Mr. Atwill was transferred later to Dubuque and in 1915, he was promoted to superintendent of the Minnesota division, with headquarters at the same point. In 1917, he was transferred to the St. Louis division, with headquarters at Carbondale, Ill., where he remained until 1923, when he was advanced to general superintendent of the Southern Lines, with headquarters at New Orleans, La. Mr. Atwill was transferred to the Northern Lines, with headquarters at Chicago in 1925, and he was further advanced to general manager in 1929. On February 1, 1934, he was elected vice-president and general manager, which title he held until March 15, 1939, when his title was changed to vice-president in charge operation, and he was given a leave of absence because of illness.

OPERATING

L. M. Truax, agent on the Chicago, Milwaukee, St. Paul & Pacific at Red Wing, Minn., has been promoted to general agent, operating department, at Rockford, Ill., succeeding **W. A. Johnson,** who has retired.

C. P. LeSueur, track supervisor of the Macon terminals of the Central of Georgia, with headquarters at Macon, Ga., has been appointed trainmaster of the Savannah division, with headquarters at Savannah, Ga., succeeding **C. A. Reinhart,** who has been appointed office trainmaster.

Roy C. Kline, assistant superintendent of the Albuquerque division of the Atchison, Topeka & Santa Fe, with headquarters at Prescott, Ariz., has been promoted, effective January 1, to superintendent of the Arizona division, with headquarters at Needles, Cal., succeeding **George W. Simpson,** who has been transferred to the Valley division, with headquarters at Fresno, Cal. Mr. Simpson will relieve **J. A. Christie,** whose retirement on December 31 was announced in the *Railway Age* of December 16.

T. K. Williams, trainmaster of the Illinois Central at Grenada, Miss., has been promoted to assistant superintendent, with headquarters at Water Valley, Miss., a newly created position. **J. F. Sharkey,** trainmaster at Clinton, Ill., has been transferred to Grenada, Miss., succeeding Mr. Williams, and **Frank Walker,** trainmaster of the Springfield district at Clinton, has been transferred to the territory formerly under the jurisdiction of Mr. Sharkey, with the same headquarters. **E. H. Hallman,** yardmaster at Blueford, Ill., has been advanced to trainmaster at Clinton, succeeding Mr. Walker.

E. P. Adams, supervisor of track on the Wilkes-Barre division of the Pennsylvania, with headquarters at Reading, Pa., has been promoted to assistant trainmaster on the Indianapolis division, with headquarters at Louisville, Ky., succeeding **G. J. McCloskey,** who has been transferred to the Chicago Terminal division, replacing **R. L. Agnew. J. M. Dixon,** yardmaster on the Conemaugh division, has been promoted to assistant trainmaster on the Columbus division, with headquarters at Richmond, Ind. **E. W. Davis,** assistant trainmaster on the Cleveland division, with headquarters at Cleveland, Ohio, has been transferred to the Columbus division, with headquarters at Columbus, Ohio, relieving **H. L. Lodge, Jr.,** who has been transferred to Cleveland, succeeding Mr. Davis.

Harley Thayer, whose promotion to superintendent of the Black Hills division of the Chicago & North Western, with headquarters at Chadron, Neb., was announced in the *Railway Age* of December 16, was born at Waterloo, Iowa, on December 25, 1879, and entered railway service in October, 1897, as a station helper on the North Western at Ridgefield, Ill. In May, 1898, he became a freight brakeman on the Wisconsin division, working out of Chicago and in November, 1903, he was promoted to conductor. Mr. Thayer was advanced to trainmaster on the Galena division, with headquarters at Chicago, in October, 1925, and on April 1, 1934, he was promoted to assistant superintendent with headquarters at Milwaukee, Wis. On January 20, 1937, he was transferred to Winona, Minn., where he was located until his recent promotion on December 1.

Arthur J. Worthman, whose retirement on December 1, as superintendent of the Madison division of the Chicago & North Western, with headquarters at Madison, Wis., was announced in the *Railway Age* of December 16, was born at Reedsburg, Wis., on November 18, 1870, and entered railway service on October 1, 1887, as a car clerk on the North Western at Baraboo, Wis. He was later employed in various station positions until June 20, 1900, when he was promoted to agent at Baraboo. On June 24, 1905, he was appointed chief clerk to the division superintendent at Madison, and on December 6, 1908, he was appointed freight inspector on the Madison division. Mr. Worthman was promoted to yardmaster at Adams, Wis., on August 5, 1912, and two months later he was advanced to trainmaster at Baraboo. On August 1, 1916, he was further promoted to assistant superintendent at that point and eight months later he was transferred to Butler, Wis. On October 25, 1922, Mr. Worthman was promoted to superintendent of the Wyoming division, with headquarters at Casper, Wyo., and on January 1, 1925, he was transferred to the Madison division, with headquarters at Madison, where he remained until his retirement.

FINANCIAL, LEGAL AND ACCOUNTING

Glenn C. Wilber, whose promotion to general attorney for the Pere Marquette, with headquarters at Detroit, Mich., was announced in the *Railway Age* of December 16, was born at Battle Creek, Mich., on December 26, 1908, and graduated from the University of Michigan in 1929, and the Detroit College of Law in 1933. Following graduation he became associated in the private practice of law with the firm of Schmalzriedt, Frye, Granse & Frye at

Glenn C. Wilber

Detroit. He entered railway service on February 21, 1938, as an attorney for the Pere Marquette, the position he held until his recent appointment, which was effective on November 1.

TRAFFIC

Herbert M. Phillips, division freight agent of the Pennsylvania, with headquarters at Baltimore, Md., has been promoted to assistant general freight agent of the Long Island, with headquarters at New York.

W. E. Bishoff, supervisor of mail traffic of the Seaboard Air Line, with headquarters at Norfolk, Va., has been appointed mail traffic manager, with the same headquarters. The position of supervisor of mail traffic has been abolished.

O. W. Williams, executive general agent on the Missouri Pacific at Harlingen, Tex., has been promoted to assistant general freight agent at Memphis, Tenn., succeeding **J. R. Duckworth,** who will retire because of ill health on January 1. **R. W.**

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NO. 107 OF A SERIES OF FAMOUS ARCHES OF THE WORLD

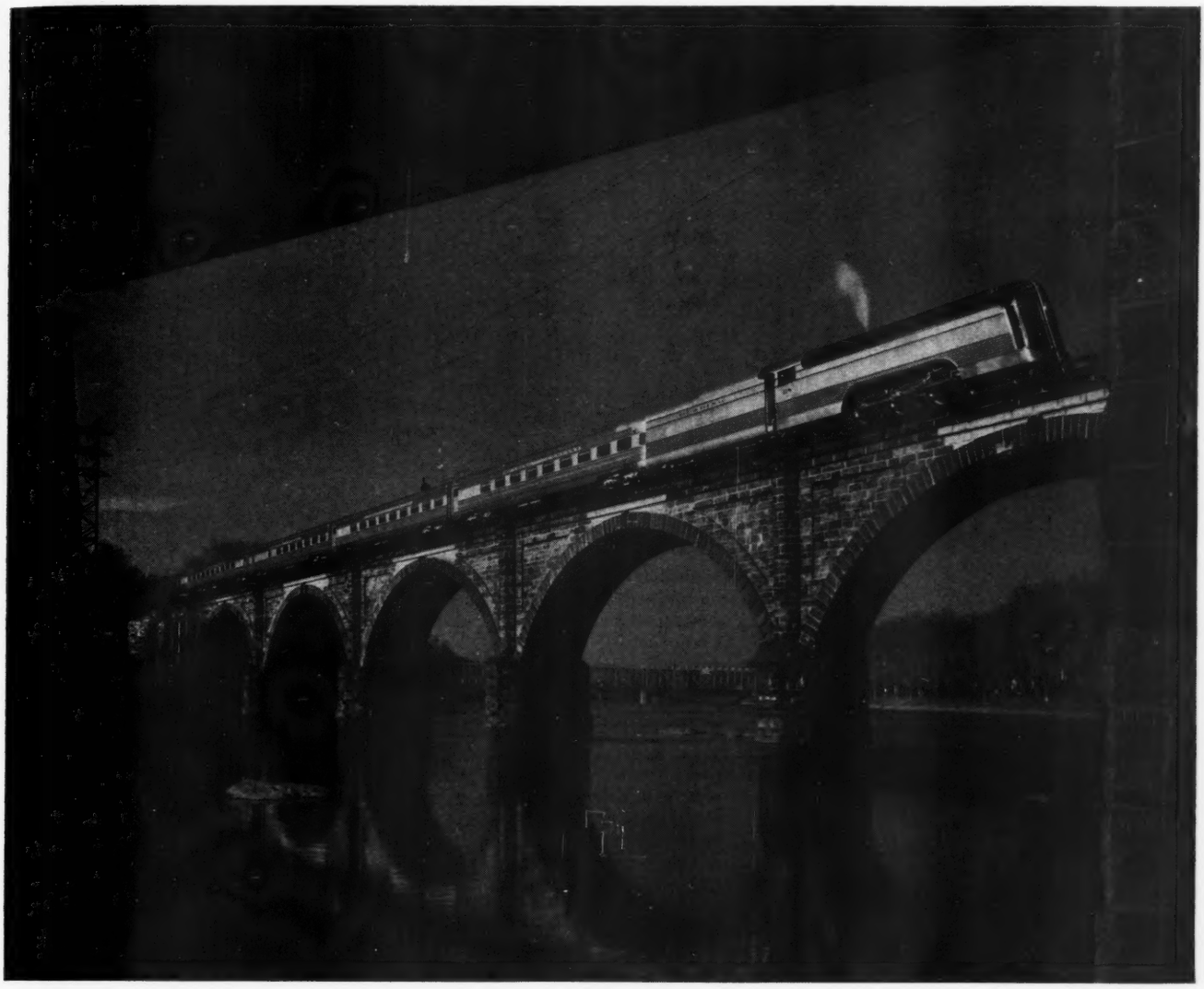


Photo courtesy of Reading R. R.

STONE ARCH BRIDGE

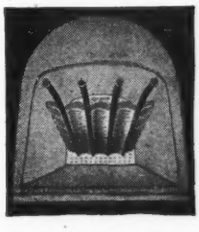
PHILADELPHIA

This 690 ft. stone arch bridge was built for the Reading Railroad in 1877, and today it carries the newest of the Reading's streamlined trains, "The Crusader" at a height of 45 ft. over the Schuylkill River at West Falls in Fairmount Park, Philadelphia. The bridge is built on the skew, the square distance between arches being 75 ft. and the skew distance being 82 ft. » » » 30 years ago the Security Sectional Arch was introduced to the railroads by the American Arch Company. While it has been improved to keep pace with modern railroading, the basic design remains the same and today it is the standard on American Railroads. To realize true efficiency from your Sectional Arch be sure that you maintain a *complete* arch at all times.

There's More to **SECURITY ARCHES** *Than Just Brick*

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.

INCORPORATED

60 EAST 42nd STREET, NEW YORK, N. Y.

Locomotive Combustion Specialists

Moss, general agent at Beaumont, Tex., will replace Mr. Williams as executive general agent at Harlingen and **E. M. Weinberger,** general agent at Atlanta, Ga., will be transferred to Beaumont, relieving Mr. Moss. **J. A. Fetz,** general agent at Phoenix, Ariz., will succeed Mr. Weinberger at Atlanta and **H. L. Engel,** perishable freight agent at Los Angeles, Cal., has been promoted to general agent at Phoenix to succeed Mr. Fetz.

R. R. Feickert, general agent for the Kansas City Southern and the Louisiana & Arkansas at Minneapolis, Minn., has been transferred to St. Louis, Mo., succeeding **Charles W. Wheeler,** whose death, on November 18, was announced in the *Railway Age* of December 2

L. J. Knowles has been appointed Commission traffic representative of the Canadian National, with headquarters at Montreal, Que., and will deal with freight traffic matters coming before the Board of Transport Commissioners for Canada, or the Interstate Commerce Commission.

J. R. Barry, general agent for the Louisville & Nashville at Pittsburgh, Pa., has been promoted to assistant general freight agent at Louisville, Ky., succeeding **W. E. Chambers,** whose death on July 16 was announced in the *Railway Age* of July 29.

Carter H. Lippincott, general coal freight agent of the Pennsylvania, with headquarters at Philadelphia, Pa., has been advanced to assistant coal traffic manager, with the same headquarters, a newly-created position, and **A. S. Jennings,** general coal freight agent, with headquarters at Pittsburgh, Pa., has been promoted to general coal freight agent at Philadelphia succeeding Mr. Lippincott. **Herrman H. Lippold,** general coal freight agent at Chicago, has been transferred to Pittsburgh, replacing Mr. Jennings and **Henry W. Large,** division freight agent at Cincinnati, Ohio, has been promoted to general coal freight agent at Chicago, relieving Mr. Lippold. **A. L. Graburn, Jr.,** chief clerk in the coal traffic department at Pittsburgh, has been promoted to coal freight agent at Philadelphia. **John C. McMichael,** division freight agent at Indianapolis, Ind., has been transferred to Cincinnati, succeeding Mr. Large and **W. P. Hammond,** district freight agent at Canton, Ohio, has been advanced to division freight agent at Indianapolis, relieving Mr. McMichael. **V. H. McLean,** division freight agent at Erie, Pa., has been transferred to Baltimore, replacing **H. M. Phillips. K. M. Potter,** district freight agent at Erie, Pa., has been promoted to division freight agent at that point, succeeding Mr. McLean.

Frederick H. Baird, passenger traffic manager of the New York Central, with headquarters at Chicago, has been appointed general passenger traffic manager of the system, with headquarters at New York, succeeding **Louis W. Landman,** who will retire on January 1, after 53 years of railroad service. Although retiring officially, Mr. Landman will be retained by the company in a consulting capacity in New York. **James W. Switzer,** general passenger agent of the system at New York, has been appointed passenger traffic manager at Chicago. **E. E. Pierce,** general passenger agent of the Boston & Albany, with headquarters

Frederick H. Baird

at Boston, Mass., has been appointed general passenger agent of the New York Central at New York, succeeding Mr. Switzer. **Ira G. Rasp,** division passenger agent of the New York Central at Albany, N. Y., has been appointed to succeed Mr. Pierce as general passenger agent of the Boston & Albany at Boston. **Charles Fendrych,** general agent in the office of the general passenger traffic manager at New York, has been appointed division passenger agent at Albany, succeeding Mr. Rasp.

Mr. Baird entered railroad service in 1909, when he was 17 years old, as a stenographer in the operating department of the Lake Shore & Michigan Southern (New York Central) at Buffalo, N. Y. Four years later he was transferred to the passenger department and served as a clerk in the general passenger agent's office at Buffalo. In 1916 he was promoted to city passenger agent at Buffalo and during the World War served 18 months overseas in

Louis W. Landman

the United States Army. Following the war he returned to the New York Central Lines as city passenger agent at New York, being transferred to Cleveland, Ohio, in 1920. In 1929 Mr. Baird was promoted to division passenger agent at Cleveland and after two years in this position he was appointed assistant general passenger agent of the Cleveland, Cincinnati, Chicago & St. Louis (part of the New York Central Lines) with headquarters at Cincinnati, Ohio. Early in 1934 Mr. Baird was further promoted to general passenger agent of the Big Four, with the same headquarters. In June, 1937, Mr. Baird was appointed assistant passenger traffic manager of the New York Central system at Chicago, becoming passenger traffic manager, with the same headquarters in October, 1937.

Mr. Landman was born on December 6, 1869, at Waynetown, Ind., and entered railway service in 1886, serving consecutively until 1889 as telegraph operator on the Indiana, Bloomington & Western (C. C. C. & St. L.), and as ticket agent for the same road at Danville, Ill. In 1889 he was appointed city passenger and ticket agent of the Fort Wayne, Cincinnati & Louisville (N. Y. C. & St. L.) at Fort Wayne, Ind. He subsequently served as southern passenger agent on the Columbus, Hocking Valley & Toledo (C. & O.) and as general traveling agent in the passenger department of the same road and its successor, the Hocking Valley, and in September, 1904, became geenral agent in the freight and passenger department of the Cleveland, Cincinnati, Chicago & St. Louis. The following year he was appointed general agent in the passenger department of the New York Central Lines at Toledo, Ohio. Mr. Landman was appointed general western passenger agent of the Lake Shore & Michigan Southern (New York Central) in 1906. He was appointed general passenger agent of the Lake Erie & Western (now N. Y. C. & St. L.) in 1910 and in the following year he became general passenger agent of the Michigan Central. He was promoted to passenger traffic manager of the New York Central and the Michigan Central in March, 1920, and in February, 1930, was further advanced to general passenger traffic manager, Lines West. In June, 1931, Mr. Landman's jurisdiction was extended to cover the entire system.

ENGINEERING AND SIGNALING

Effective January 1, **Harry E. Jones,** assistant engineer maintenance of way of the Lehigh & New England, with headquarters at Bethlehem, Pa., has been promoted to engineer maintenance of way, with same headquarters, succeeding **W. O. Dennis,** whose death on November 16, was announced in the *Railway Age* of November 25.

W. C. Harvey, whose retirement on December 1, as valuation engineer of the Chicago Great Western, with headquarters at Chicago, was announced in the *Railway Age* of December 9, was born at Waverly, Ill., on November 14, 1870, and graduated from the University of Illinois in 1892. After teaching and working on a number of engineering projects, Mr. Harvey entered railway service in 1895, as a draftsman on the Illinois Central, later being promoted to instrumentman. A short time later he went with the Chicago Terminal Transfer (now the Baltimore & Ohio Chi-

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Merry Christmas and A Happy New Year

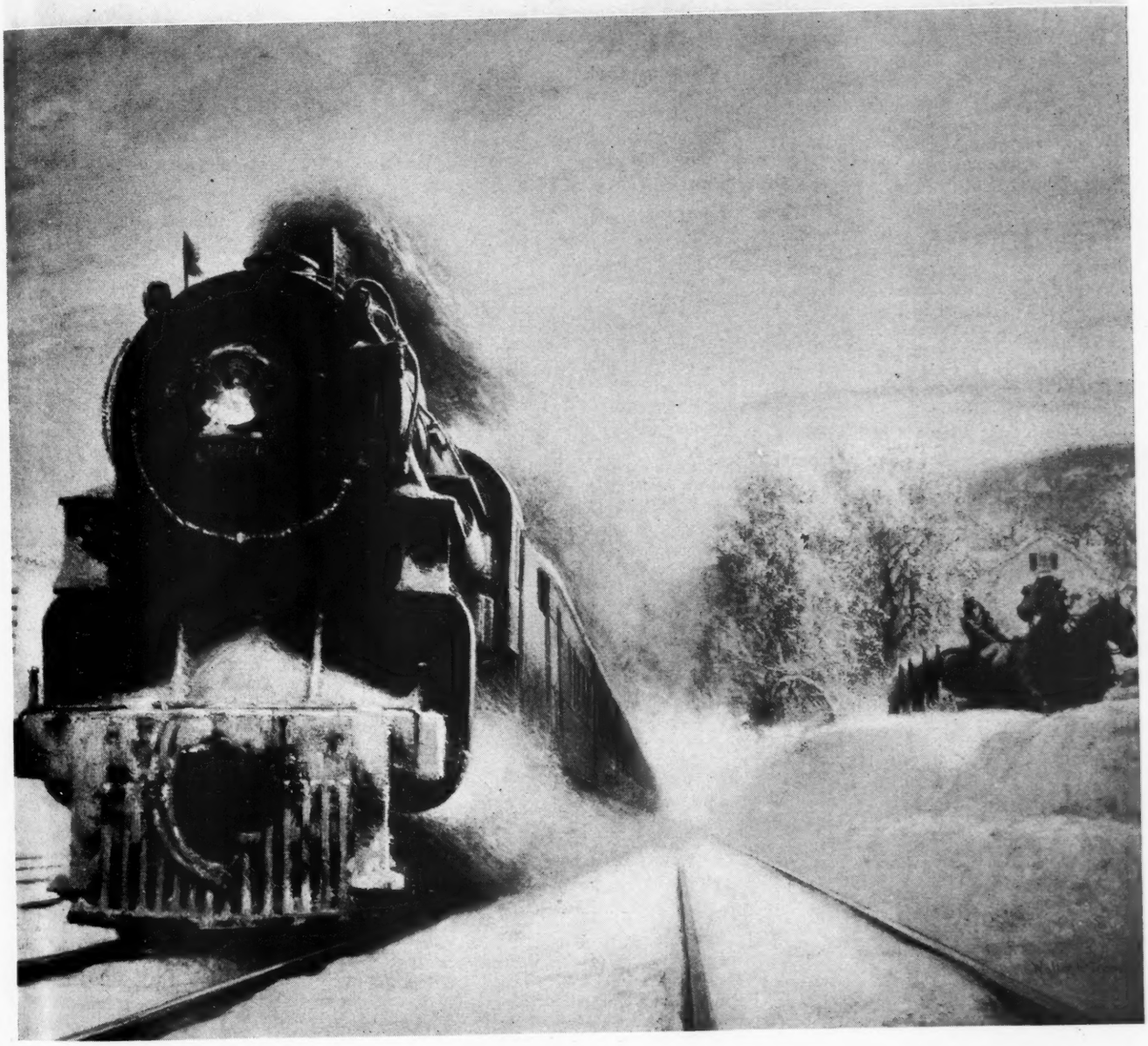

Illustration New York Central System

ELESCO

A-1376

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.

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cago Terminal), as a bridge draftsman and assistant engineer and in 1901, he became chief draftsman on the Denver & Rio Grande Western at Salt Lake City, Utah. In 1902, he went with the Chicago & North Western as a draftsman and in 1905, he went with the Chicago Great Western as principal assistant engineer at St. Paul, Minn. Mr. Harvey was promoted to division engineer at Red Wing, Minn., in 1908, and in 1909, he returned to the general office as assistant engineer, to handle the large improvement program due to the reorganization of the property. In 1916, he was appointed valuation engineer, the position he held until his retirement.

Evariste M. Lewis, whose promotion to valuation engineer of the Chicago & Great Western, with headquarters at Chicago, was announced in the *Railway Age* of December 9, was born at Southington, Conn., on May 6, 1882, and attended the University of Wisconsin for four years. He entered railway service in July, 1906, as a masonry inspector on the Great Western at Chicago and in August, 1912, he was appointed engineer in charge of the construction of the Mississippi River bridge at St. Paul, Minn. On September 1, 1913, he left the Great Western to go with George B. Swift & Company, general contractors, but returned to the Great Western a year later and was assigned to special engineering work in the office of the chief engineer at Chicago. From May, 1917, to January, 1918, he was placed in charge of the construction of grain storage tanks for the Independent Elevator (a subsidiary of the C. G. W.), and on February 1, 1918, he was promoted to division engineer, with headquarters at Des Moines, Iowa. Mr. Lewis was appointed engineering auditor in the office of the chief engineer at Chicago on January 1, 1925, and held that position until his recent promotion.

Felix S. Hales, whose promotion to bridge engineer of the New York, Chicago & St. Louis (Nickel Plate), with headquarters at Cleveland, Ohio, was announced in the *Railway Age* of December 9, was born at Wilson, N. C., on April 13, 1893,

Felix S. Hales

and graduated in engineering from North Carolina State College in 1913, and in civil engineering from Cornell University in 1916. He entered railway service in 1916 as a draftsman for the Nickel Plate on grade elimination work and served in that capacity until June, 1918, when he joined the U. S. Army as a second lieutenant in the field artillery. He returned to his former position with the Nickel Plate in December, 1918, and in 1919 he was appointed assistant to the corporate chief engineer. In 1920, Mr. Hales was appointed assistant engineer in charge of bridge design and steel inspection and in April, 1924, he was transferred to the track department as assistant engineer. Four months later, he was promoted to engineer of track, with headquarters as before at Cleveland, and his jurisdiction was extended to include the Lake Erie and Western district in 1925 and the entire system in 1927. In 1928, Mr. Hales was appointed engineer of the Cleveland Terminal improvements, and in 1934 he returned to his former position as engineer of track, which he held until his recent promotion, which was effective on December 1.

MECHANICAL

J. E. Goodwin, general foreman in the locomotive department of the Missouri Pacific at North Little Rock, Ark., has been appointed shop superintendent, with the same headquarters.

E. L. Johnson, engineer of tests of the New York Central system, with headquarters at New York, has been appointed assistant chief engineer motive power and rolling stock, with headquarters at New York, succeeding **James E. Davenport,** who has resigned, effective January 1, to become assistant to vice-president-engineering, American Locomotive Company.

C. M. Pettrey, general foreman of the Shaffers Crossing shops of the Norfolk & Western, has been appointed assistant master mechanic of the Radford and Shenandoah divisions, with headquarters at Roanoke, Va., succeeding **C. E. Pond**, whose appointment as assistant to the superintendent of motive power at Roanoke was reported in the *Railway Age* of December 9.

OBITUARY

R. L. Stearns, Sr., chairman of the board of the Kentucky & Tennessee, with headquarters at Stearns, Ky., died on November 2.

William F. Miller, assistant to the chief engineer, maintenance of way, of the Eastern region of the Pennsylvania, died on December 18 at his home in Ardmore, Pa., after a lingering illness of over a year's duration. Mr. Miller was born in Philadelphia on June 21, 1880, and received his technical engineering education under the private tutorship of Edwin S. Gault, and later Professor Conway, both of the University of Pennsylvania. His entire railroad service was with the Pennsylvania railroad, starting as a messenger in the West Philadelphia train dispatcher's office on July 25, 1892. He was transferred to the engineering department in which he served as a rodman, transitman and on January 16, 1907, was appointed assistant track supervisor at Altoona. Subsequently, Mr. Miller was advanced to supervisor, then assistant trainmaster, and on August 1, 1914, was appointed pilot and cost engi-

William F. Miller

neer in the valuation department. Mr. Miller was promoted to division engineer on the Williamsport division on March 1, 1920, and later transferred to a similar position on the Maryland division at Wilmington, Del. He was appointed engineer, maintenance of way, of the Eastern Pennsylvania general division at Harrisburg, Pa., on April 1, 1926. Mr. Miller had been granted a leave of absence on account of illness from February, 1938, to February 1, 1939, when he was assigned to the position he held at the time of his death.

James N. Petersen, supervisor of the personal record bureau of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, died of a heart attack in that city on December 13.

E. C. Leedy, whose retirement, because of ill health, as general agricultural development agent of the Great Northern, with headquarters at St. Paul, Minn., was announced in the *Railway Age* of September 16, died at his home in St. Paul on December 13.

George Merriman, trainmaster of the Chicago, North Shore & Milwaukee since 1916, died at his home in Waukegan, Ill., on December 16.

R. E. Gaut, who resigned in the summer of 1910 as engineer of bridges of the Illinois Central, with headquarters at Chicago, to accept a position with the Leonard Construction Company, Chicago, later entering business in the East, died at his home in Yonkers, N. Y., on December 4.

ACCIDENTS TO PULLMAN COMPANY EMPLOYEES were reduced 72 per cent in the 14 years from January 1, 1927, to December 31, 1938, according to the company's Bureau of Safety and Compensation reports. Accidents in special categories of employees were reduced during the same period as follows: Conductors, 65 per cent; yard employees, 84 per cent; all zone employees, 81 per cent; porters and maids, 79 per cent; and repair shop employees, 69 per cent.

Table of Freight Operating Statistics appears on next left-hand page

Champions—Both of Them!

"HSC" BRAKE

Outstanding travel service to Florida east coast resorts is provided by the new streamlined deluxe coach trains sponsored jointly by the Atlantic Coast Line and Florida East Coast railroads. Superior appointments and conveniences characterize these modern transportation units . . . Equally distinctive as other features designed for the satisfaction and security of patrons is the air brake equipment—Westinghouse "HSC" Type. Its powerful braking force, quickly and uniformly attained, assures adequate safety at time-saving speeds. Its prompt and precise control permits smooth retardation and "velvety", noiseless stops—thereby making a noteworthy contribution to passenger comfort.

The Westinghouse HSC Brake Equipment is powerful yet admits of precise control. Being electro-pneumatic, it responds instantly, acts simultaneously on all cars, and is automatically adjusted in accordance with varying speed. It provides the engineer with a superior means to control high speed trains safely, accurately, smoothly. » » » » » »

WESTINGHOUSE AIR BRAKE COMPANY

General Office and Works: » » » » » **WILMERDING, PENNA.**

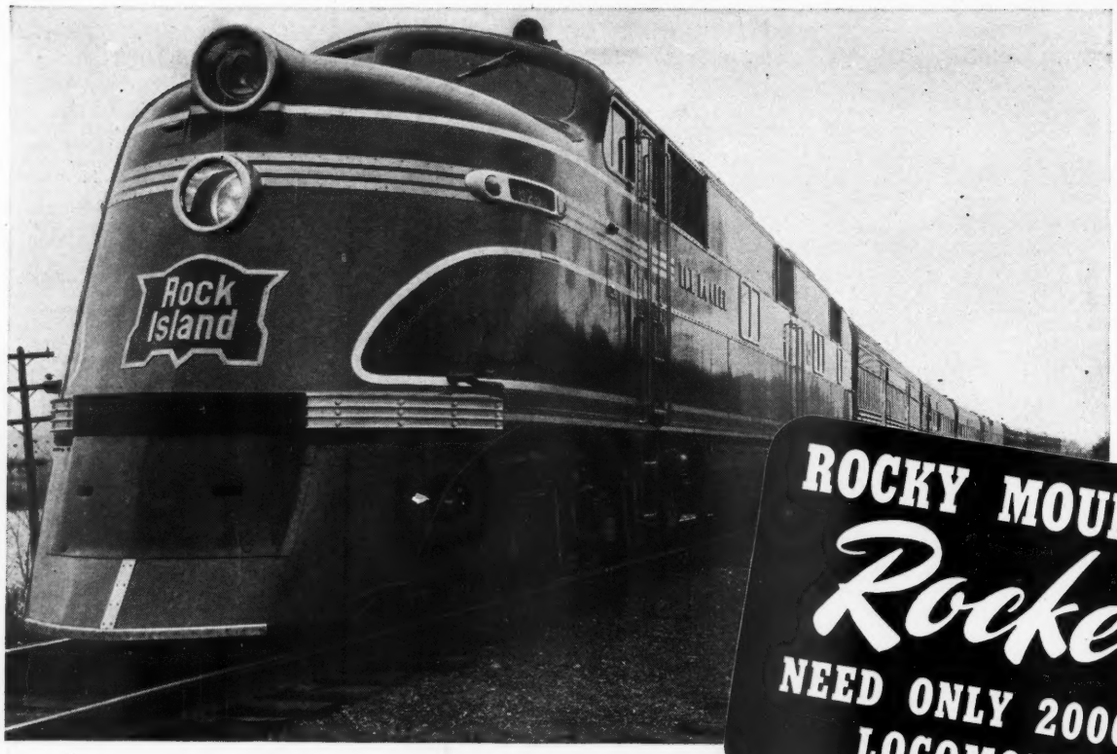
Freight Operating Statistics of Large Steam Railways—Selected Items for the Month of October,

Region, road, and year	Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross, excluding locomotives and tenders	Ton-miles (*thousands*): Net, revenue and non-revenue	Number of road locomotives on line: Serviceable: Not stored	Serviceable: Stored	Unserviceable	Per cent unserviceable
New England Region:												
Boston & Albany 1939	362	163,189	168,912	11,816	3,521	64.9	216,048	84,788	57	2	29	33.0
1938	374	139,225	145,157	9,760	3,136	64.7	179,824	62,980	55	3	32	35.6
Boston & Maine..... 1939	1,915	311,772	353,092	30,706	11,023	68.2	632,969	245,372	125	..	51	29.0
1938	1,937	318,170	390,275	23,057	11,431	68.5	641,715	244,831	124	1	108	46.4
N. Y., New H. & Hartf.... 1939	1,851	371,203	465,995	35,378	13,839	68.3	759,215	298,342	184	15	61	24.6
1938	1,859	365,210	459,149	31,585	12,815	66.1	703,424	260,051	168	3	98	35.7
Great Lakes Region:												
Delaware & Hudson..... 1939	845	280,078	380,742	40,119	10,047	64.2	647,467	316,102	125	36	83	34.0
1938	830	216,706	300,963	33,560	8,056	64.2	503,478	238,193	108	95	55	21.3
Del., Lack. & Western.... 1939	983	380,206	441,786	64,645	14,608	69.8	860,882	361,997	127	2	78	37.7
1938	983	338,643	384,258	54,834	12,570	69.1	724,107	286,938	121	5	87	40.8
Erie (incl. Chi. & Erie)... 1939	2,290	803,050	858,780	55,449	36,584	65.4	2,288,747	897,425	244	3	171	40.9
1938	2,275	703,482	749,338	50,419	32,536	65.5	1,979,164	725,538	231	16	224	47.6
Grand Trunk Western..... 1939	1,023	262,720	264,380	2,000	7,553	63.9	459,459	167,842	69	..	33	32.4
1938	1,027	258,553	260,712	2,042	6,717	62.1	414,232	143,596	68	..	46	40.4
Lehigh Valley 1939	1,265	343,062	382,502	58,019	14,803	67.1	931,019	409,770	119	..	109	47.8
1938	1,267	299,445	333,158	54,048	12,712	66.3	792,368	337,672	120	2	115	48.5
New York Central..... 1939	10,606	2,890,886	3,079,721	200,901	100,680	60.0	7,002,125	3,034,836	909	47	459	32.4
1938	10,651	2,590,143	2,748,380	181,164	88,687	59.6	6,035,334	2,531,445	831	137	506	34.3
New York, Chi. & St. L... 1939	1,672	544,845	554,735	7,331	21,076	66.6	1,278,191	511,200	167	3	28	14.1
1938	1,672	485,201	493,082	6,401	18,022	63.9	1,089,263	405,769	147	9	42	21.2
Pere Marquette 1939	2,081	393,322	406,086	8,488	11,245	64.3	716,451	289,213	121	1	37	23.3
1938	2,081	331,794	338,138	7,236	9,456	63.3	605,064	239,448	110	2	52	31.7
Pitts. & Lake Erie..... 1939	233	88,759	91,777	.....	3,826	63.4	332,896	196,133	33	1	29	46.0
1938	233	69,132	70,918	.....	2,926	59.0	253,589	141,235	32	1	41	55.4
Wabash 1939	2,397	605,487	617,553	12,298	19,892	68.6	1,162,455	446,392	139	9	122	45.2
1938	2,421	566,739	578,148	12,304	18,458	66.6	1,077,568	388,357	136	12	131	47.0
Central Eastern Region:												
Baltimore & Ohio..... 1939	6,269	1,683,445	2,115,543	238,138	56,280	62.4	3,975,008	1,859,665	737	18	455	37.6
1938	6,311	1,392,299	1,709,532	187,421	45,600	63.0	3,102,985	1,387,950	578	135	513	41.8
Central of New Jersey..... 1939	679	176,913	201,617	41,069	6,241	62.8	459,456	218,534	83	6	71	44.4
1938	679	150,682	175,252	35,634	5,163	62.6	353,110	168,517	71	2	79	52.0
Chicago & Eastern Ill..... 1939	927	177,723	178,027	3,215	5,001	68.6	314,284	138,071	52	2	37	40.7
1938	927	167,798	168,037	2,896	4,499	67.0	276,006	117,683	51	..	55	51.9
Elgin, Joliet & Eastern..... 1939	390	114,787	116,540	1,545	3,051	58.4	244,027	120,848	58	..	21	26.6
1938	435	84,210	85,151	1,113	2,069	59.8	159,483	76,794	47	5	30	36.6
Long Island 1939	375	31,402	32,762	19,214	324	49.9	25,218	9,337	34	1	13	27.1
1938	390	31,750	32,748	17,625	338	50.3	26,400	9,914	33	5	10	20.8
Pennsylvania System 1939	9,998	3,284,257	3,991,109	471,939	130,459	62.9	9,194,297	4,334,060	1,316	10	965	42.1
1938	10,003	2,625,818	3,214,684	368,776	102,580	61.7	6,918,392	3,009,699	1,149	201	1,016	42.9
Reading 1939	1,442	440,238	489,611	60,905	13,680	65.3	974,815	494,466	211	3	144	40.2
1938	1,442	372,450	414,218	48,690	11,431	62.8	819,763	396,046	173	22	159	44.9
Pocahontas Region:												
Chesapeake & Ohio..... 1939	3,049	982,627	1,045,053	48,673	48,175	56.8	4,111,654	2,251,422	407	21	96	18.3
1938	3,050	876,470	918,640	39,775	40,642	54.8	3,505,079	1,905,460	363	23	143	27.0
Norfolk & Western..... 1939	2,169	780,393	817,246	46,847	35,729	57.9	3,015,279	1,619,069	285	22	45	12.8
1938	2,169	680,969	707,733	38,069	29,814	57.9	2,457,288	1,291,991	271	49	38	10.6
Southern Region:												
Atlantic Coast Line..... 1939	5,078	561,097	563,907	8,026	13,337	65.5	765,544	282,044	244	27	54	16.6
1938	5,079	503,441	504,952	6,883	11,729	63.8	667,922	231,511	224	51	94	25.5
Central of Georgia..... 1939	1,838	275,350	277,167	3,816	6,198	74.2	339,989	137,360	95	..	23	19.5
1938	1,886	256,505	258,626	3,884	5,762	71.5	318,854	124,774	89	..	34	27.6
Illinois Central (incl. 1939	6,537	1,445,273	1,459,028	27,364	44,510	64.1	2,889,961	1,251,981	619	25	197	23.4
Y. & M. V.)..... 1938	6,540	1,354,282	1,365,241	25,559	38,925	63.4	2,502,304	1,047,429	628	10	215	25.2
Louisville & Nashville..... 1939	4,897	1,224,032	1,327,910	37,438	32,118	60.4	2,298,425	1,126,778	353	..	190	35.0
1938	4,928	1,054,819	1,133,066	29,462	26,788	59.2	1,905,159	901,891	318	11	209	38.8
Seaboard Air Line..... 1939	4,303	551,901	585,323	5,586	15,064	66.7	885,748	350,417	231	12	58	19.3
1938	4,305	478,146	506,486	5,265	12,856	66.4	751,083	293,199	200	23	80	26.4
Southern 1939	6,479	1,517,988	1,545,238	23,594	36,161	68.6	2,092,792	863,295	486	3	165	25.2
1938	6,561	1,367,582	1,390,105	20,602	31,418	66.7	1,823,346	723,996	485	16	204	28.9
Northwestern Region:												
Chi. & North Western..... 1939	8,326	985,486	1,012,949	21,747	30,520	64.0	1,930,797	763,000	321	34	316	47.1
1938	8,394	946,541	980,790	27,428	28,022	62.0	1,794,754	686,539	325	122	249	35.8
Chicago Great Western.... 1939	1,450	280,398	283,392	7,269	8,501	62.3	535,738	194,914	70	1	14	16.5
1938	1,450	285,063	285,652	13,510	8,393	61.2	526,559	183,532	67	..	26	28.0
Chi., Milw., St. P. & Pac.. 1939	10,882	1,443,020	1,500,892	54,312	42,955	61.5	2,803,057	1,150,075	469	28	177	26.3
1938	10,941	1,320,869	1,367,789	48,819	37,900	61.8	2,449,177	999,176	444	81	159	23.2
Chi., St. P., Minneap. & Om. 1939	1,619	242,548	254,758	11,936	5,968	65.3	373,447	142,217	113	9	18	12.9
1938	1,619	217,903	228,299	10,269	5,088	64.8	315,602	128,379	100	15	23	16.7
Great Northern 1939	7,976	1,009,780	1,013,444	36,530	37,766	58.5	2,750,741	1,209,459	394	28	117	21.7
1938	7,976	880,249	882,411	31,811	30,590	62.3	2,089,143	879,541	389	37	128	23.1
Minneap, St. P. & S. St. M.. 1939	4,265	421,685	427,426	5,470	10,844	65.7	649,850	278,039	119	..	25	17.4
1938	4,266	380,146	384,822	4,299	8,661	63.2	528,066	213,576	123	1	30	19.5
Northern Pacific 1939	6,423	787,200	838,558	48,867	27,312	69.9	1,665,293	730,894	364	2	84	18.7
1938	6,423	691,941	722,608	34,826	22,874	68.6	1,373,307	580,486	335	31	97	21.0
Central Western Region:												
Alton 1939	914	217,858	237,069	1,461	5,274	65.1	334,405	132,681	61	11	15	17.2
1938	912	202,417	217,608	1,088	4,726	65.7	288,255	109,292	59	11	24	25.5
Atch., Top. & S. Fe (incl. 1939	13,447	2,219,657	2,382,225	119,504	66,419	60.7	4,345,080	1,416,153	646	32	183	21.3
G. C. & S. F. & P. & S.F.). 1938	13,500	2,142,347	2,306,792	113,902	63,896	59.8	4,191,493	1,305,326	622	27	283	30.4
Chi., Burl. & Quincy..... 1939	8,992	1,357,916	1,410,482	55,871	41,406	63.2	2,637,723	1,069,076	480	6	78	13.8
1938	8,907	1,251,424	1,296,168	47,513	36,951	62.5	2,336,212	917,464	468	20	74	13.2
Chi., Rock I. & Pac. (incl. 1939	7,830	1,198,419	1,219,105	10,483	30,231	63.6	1,883,369	743,632	335	60	155	28.2
Chi., Rock I. & Gulf).... 1938	7,954	1,144,781	1,163,210	6,309	28,321	63.8	1,735,948	675,687	349	50	185	31.7
Denver & R. G. Wn..... 1939	2,555	430,647	486,285	58,411	11,856	63.5	746,119	294,832	179	9	15	7.4
1938	2,563	410,326	456,397	51,587	11,099	63.9	678,706	254,950	169	11	14	7.2
Southern Pac.—Pac. Lines. 1939	8,566	1,712,197	1,863,594	236,553	59,809	64.7	3,774,743	1,378,492	656	17	130	16.2
1938	8,566	1,571,062	1,716,811	201,174	54,155	64.1	3,396,145	1,185,828	588	11	196	24.7
Union Pacific 1939	9,900	2,393,427	2,478,325	135,299	78,674	62.6	4,938,866	1,744,272	638	24	216	24.6
1938	9,903	2,209,714	2,281,270	116,168	73,084	61.0	4,648,858	1,573,176	617	60	194	22.3
Southwestern Region:												
Mo.-Kans.-Texas Lines 1939	3,282	431,236	434,428	4,894	11,044	64.9	655,141	245,293	87	..	112	56.3
1938	3,282	375,170	378,884	6,069	10,208	62.6	622,959	231,546	94	..	107	53.2
Missouri-Pacific 1939	7,124	1,241,022	1,289,404	27,020	37,598	64.4	2,361,879	948,727	399	33	109	20.1
1938	7,146	1,176,188	1,201,652	24,504	34,875	63.3	2,186,463	852,037	381	53	107	19.8
Texas & Pacific..... 1939	1,932	283,140	283,140	2,081	8,962	63.8	554,252	205,335	82	5	101	53.7
1938	1,932	277,457	277,457	1,745	8,708	62.2	543,291	192,956	85	9	94	50.0
St. Louis-San Francisco.... 1939	4,784	787,801	796,324	10,378	17,017	63.1	1,058,447	420,643	279	38	39	11.0
1938	4,845	713,904	721,712	10,221	15,236	62.4	950,307	370,794	228	62	108	27.1
St. Louis Southw. Lines... 1939	1,673	265,846	266,149	3,372	7,805	70.4	443,898	173,867	72	25	14	12.6
1938	1,690	251,137	252,460	3,385	7,443	67.0	431,028	160,733	74	27	20	16.5
Texas & New Orleans..... 1939	4,415	619,506	619,539	6,602	15,812	68.1	969,824	392,800	211	12	50	18.3
1938	4,415	562,757	562,783	4,280	14,396	66.1	851,088	323,831	216	15	48	17.2

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

1939, Compared with October, 1938, for Roads with Annual Operating Revenues Above $25,000,000

Region, road, and year	Number of freight cars on line: Home	Foreign	Total	Per cent unserviceable	Gross ton-miles per train-hour, excluding locomotives and tenders	Gross ton-miles per train-mile, excluding locomotives and tenders	Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Locomotive-miles per locomotive-day
New England Region:													
Boston & Albany 1939	1,055	4,929	5,984	2.4	22,379	1,350	530	24.1	468	29.9	7,556	145	70.7
1938	1,023	4,542	5,565	2.6	18,965	1,321	463	20.1	409	31.5	5,432	159	59.6
Boston & Maine....1939	4,719	8,953	13,672	4.5	27,938	2,037	790	22.3	584	38.5	4,133	96	77.0
1938	7,536	8,795	16,331	10.9	25,679	2,028	774	21.4	462	31.5	4,077	100	61.2
N. Y., New H. & Hartf....1939	4,968	14,220	19,188	4.4	29,797	2,078	817	21.6	490	33.3	5,199	100	68.1
1938	8,110	11,642	19,752	10.4	26,496	1,968	727	20.3	359	26.8	4,513	104	64.0
Great Lakes Region:													
Delaware & Hudson....1939	6,155	5,321	11,476	2.7	33,771	2,326	1,135	31.5	899	44.5	12,067	109	58.5
1938	7,796	3,736	11,532	4.2	32,464	2,336	1,105	29.6	673	35.5	9,257	105	43.7
Del., Lack. & Western....1939	9,513	8,462	17,975	8.0	38,984	2,291	963	24.8	653	37.8	11,879	122	82.6
1938	12,397	6,499	18,896	17.9	38,697	2,169	860	22.8	500	31.7	9,416	126	70.5
Erie (incl. Chi. & Erie)...1939	13,181	17,935	31,116	3.1	48,280	2,872	1,126	24.5	927	57.8	12,642	92	77.7
1938	15,383	14,946	30,329	6.4	48,522	2,833	1,038	22.3	769	52.7	10,288	90	60.6
Grand Trunk Western.....1939	3,746	7,908	11,654	8.8	34,128	1,754	641	22.2	488	34.4	5,293	92	92.1
1938	5,141	6,372	11,513	16.0	32,983	1,611	559	21.4	415	31.2	4,510	92	81.3
Lehigh Valley 1939	8,067	12,888	20,955	1.7	49,764	2,753	1,212	27.7	658	35.4	10,449	105	66.5
1938	10,873	9,547	20,420	7.5	48,993	2,669	1,137	26.6	532	30.2	8,597	108	56.2
New York Central.....1939	73,436	76,842	150,278	16.2	39,252	2,445	1,060	30.1	644	35.6	9,230	97	83.5
1938	94,372	68,334	162,706	21.4	37,984	2,354	987	28.5	505	29.7	7,667	99	72.8
New York, Chi. & St. L...1939	4,470	9,910	14,380	2.8	41,103	2,353	941	24.3	1,189	73.5	9,863	85	99.5
1938	6,274	7,933	14,207	5.7	41,159	2,248	837	22.5	932	64.7	7,829	82	88.2
Pere Marquette 1939	6,608	9,134	15,742	3.6	30,177	1,828	738	25.7	587	35.5	4,483	92	94.0
1938	9,291	7,040	16,331	5.2	29,861	1,827	723	25.3	483	30.1	3,712	86	76.3
Pitts. & Lake Erie.....1939	8,053	9,970	18,023	33.9	48,912	3,754	2,212	51.3	360	11.1	27,154	81	50.4
1938	8,916	10,022	18,938	34.1	48,432	3,679	2,049	48.3	253	8.9	19,554	81	33.9
Wabash 1939	10,747	12,061	22,808	10.6	38,214	1,936	744	22.4	627	40.7	6,007	111	79.6
1938	15,494	10,316	25,810	10.4	37,963	1,920	692	21.0	496	35.4	5,175	106	72.4
Central Eastern Region:													
Baltimore & Ohio.....1939	47,505	36,982	84,487	10.1	30,569	2,401	1,123	33.0	728	35.3	9,569	133	67.2
1938	56,943	25,530	82,473	20.8	30,151	2,262	1,012	30.4	545	28.4	7,094	133	53.4
Central of New Jersey.....1939	8,632	14,466	23,098	24.7	32,936	2,743	1,305	35.0	315	14.3	10,382	114	64.2
1938	10,515	10,873	21,388	32.3	28,385	2,502	1,194	32.6	257	12.6	8,006	129	57.4
Chicago & Eastern Ill.....1939	2,438	3,678	6,116	5.3	30,043	1,773	779	27.6	712	37.6	4,805	113	68.2
1938	3,163	3,397	6,560	9.4	29,297	1,649	703	26.2	603	34.4	4,095	117	54.9
Elgin, Joliet & Eastern.....1939	7,792	6,123	13,915	3.4	19,194	2,188	1,084	39.6	291	12.6	9,996	113	69.0
1938	8,460	3,178	11,638	6.7	17,638	1,938	933	37.1	217	9.8	5,695	107	48.3
Long Island 1939	120	3,642	3,762	1.0	5,955	838	310	28.8	81	5.6	803	331	52.8
1938	364	3,395	3,759	2.8	6,063	859	323	29.3	81	5.5	820	286	51.5
Pennsylvania System 1939	165,796	73,491	239,287	17.2	39,185	2,870	1,353	33.2	578	27.7	13,984	103	70.4
1938	193,668	53,127	246,795	20.3	39,250	2,680	1,166	29.3	389	21.5	9,706	108	54.6
Reading 1939	21,681	17,560	39,241	22.5	27,946	2,223	1,128	36.1	412	17.4	11,061	128	55.6
1938	25,272	10,933	36,205	22.5	27,805	2,207	1,066	34.6	363	16.7	8,860	129	46.7
Pocahontas Region:													
Chesapeake & Ohio.....1939	37,835	18,004	55,839	1.4	58,219	4,238	2,321	46.7	1,330	50.1	23,820	70	74.7
1938	44,369	11,928	56,297	4.9	59,116	4,036	2,194	46.9	1,105	43.0	20,153	71	64.3
Norfolk & Western.....1939	28,979	6,453	35,432	2.3	59,350	3,903	2,096	45.3	1,472	56.0	24,079	85	85.2
1938	33,186	5,187	38,373	4.4	54,628	3,652	1,920	43.3	1,057	42.1	19,215	92	73.0
Southern Region:													
Atlantic Coast Line.....1939	12,772	8,560	21,332	19.0	23,686	1,368	504	21.1	434	31.3	1,792	102	57.7
1938	17,559	7,574	25,133	22.7	22,118	1,329	461	19.7	306	24.3	1,470	106	47.9
Central of Georgia.....1939	2,959	4,172	7,131	2.0	24,306	1,244	502	22.2	615	37.4	2,411	115	83.1
1938	4,579	2,995	7,574	2.0	23,836	1,246	488	21.7	551	35.6	2,134	115	75.2
Illinois Central (incl. 1939	24,166	23,501	47,667	1.1	30,355	2,016	874	28.1	862	47.8	6,178	122	61.9
Y. & M. V.).....1938	26,878	19,850	46,728	4.1	27,763	1,859	778	26.9	729	42.8	5,166	124	57.4
Louisville & Nashville.....1939	29,912	11,731	41,643	22.1	29,322	1,880	922	35.1	868	40.9	7,422	115	85.9
1938	37,778	9,615	47,393	20.8	27,489	1,808	856	33.7	630	31.6	5,904	118	73.4
Seaboard Air Line.....1939	9,477	8,048	17,525	4.2	27,188	1,625	643	23.3	670	43.2	2,627	115	71.4
1938	11,301	6,281	17,582	3.7	25,740	1,595	622	22.8	578	38.2	2,197	115	60.3
Southern 1939	19,501	20,751	40,252	9.7	23,934	1,392	574	23.9	693	42.3	4,298	135	81.2
1938	20,722	19,428	40,150	9.4	23,175	1,345	534	23.0	595	38.7	3,560	138	67.9
Northwestern Region:													
Chi. & North Western.....1939	36,286	24,694	60,980	9.7	30,113	2,026	800	25.0	402	25.1	2,956	110	54.6
1938	38,872	22,174	61,046	10.8	29,517	1,973	755	24.5	360	23.7	2,638	108	51.1
Chicago Great Western....1939	1,736	4,084	5,820	1.4	34,723	1,912	696	22.9	1,022	71.5	4,336	122	117.6
1938	2,333	3,968	6,301	2.7	33,528	1,852	646	21.9	938	70.1	4,083	123	110.0
Chi., Milw., St. P. & Pac..1939	39,139	22,063	61,202	2.2	30,616	1,953	801	26.8	609	37.0	3,409	117	82.6
1938	43,117	17,629	60,746	3.3	29,485	1,866	761	26.4	519	31.9	2,946	113	75.0
Chi., St. P., Minneap. & Om.1939	3,190	6,618	9,808	9.7	20,471	1,566	596	23.8	477	30.6	2,834	107	66.6
1938	3,077	5,207	8,284	10.6	18,953	1,462	595	25.2	478	29.2	2,558	109	59.0
Great Northern 1939	33,596	13,009	46,605	5.6	39,858	2,740	1,205	32.0	810	43.2	4,892	97	69.3
1938	37,305	11,600	48,905	6.3	34,302	2,388	1,005	28.8	559	31.2	3,557	108	59.5
Minneap, St. P. & S. St. M..1939	10,948	4,763	15,711	4.7	24,932	1,550	663	25.6	562	33.3	2,103	100	99.4
1938	12,432	3,445	15,877	6.1	22,643	1,392	563	24.7	424	27.2	1,615	98	84.5
Northern Pacific 1939	27,079	6,874	33,953	8.5	32,628	2,123	932	26.8	675	36.1	3,671	132	70.4
1938	29,365	5,452	34,817	9.1	30,260	1,992	842	25.4	516	29.7	2,915	136	58.4
Central Western Region:													
Alton 1939	1,475	5,948	7,423	12.5	37,103	1,549	614	25.2	577	35.2	4,683	122	92.6
1938	1,409	6,261	7,670	10.2	34,357	1,434	544	23.1	468	30.8	3,866	114	80.1
Atch., Top. & S. Fe (incl. 1939	63,517	13,172	76,689	9.9	37,540	1,964	640	21.3	586	45.3	3,397	113	98.3
G. C. & S. F. & P. & S.F.).1938	71,515	12,108	83,623	11.4	36,993	1,964	611	20.4	495	40.5	3,119	113	89.6
Chi., Burl. & Quincy.....1939	24,509	18,687	43,196	5.3	32,657	1,950	790	25.8	790	48.4	3,835	109	89.4
1938	27,699	16,533	44,232	6.3	31,508	1,873	736	24.8	666	42.9	3,323	112	82.9
Chi., Rock I. & Pac. (incl. 1939	15,895	14,217	30,112	5.6	28,159	1,574	621	24.6	798	51.0	3,064	120	76.6
Chi., Rock I. & Gulf)....1938	19,377	12,562	31,939	5.9	26,850	1,520	592	23.9	682	44.8	2,740	127	68.3
Denver & R. G. Wn.....1939	10,573	4,551	15,124	2.8	26,634	1,739	687	24.9	625	39.6	3,722	155	96.7
1938	11,369	3,940	15,309	3.8	25,259	1,662	624	23.0	525	35.7	3,209	154	90.2
Southern Pac.—Pac. Lines.1939	28,622	30,039	58,661	5.0	35,512	2,218	810	23.0	745	49.9	5,191	100	88.7
1938	32,626	26,668	59,294	6.5	34,623	2,175	760	21.9	633	45.0	4,466	100	83.2
Union Pacific 1939	34,090	24,764	58,854	7.0	43,080	2,081	735	22.2	924	66.5	5,684	120	101.1
1938	39,310	23,401	62,711	10.4	43,750	2,119	717	21.5	810	61.7	5,124	114	94.2
Southwestern Region:													
Mo.-Kans.-Texas Lines 1939	4,178	4,377	8,555	5.2	30,595	1,520	569	22.2	887	61.5	2,411	86	74.8
1938	5,397	3,714	9,111	2.9	31,087	1,663	618	22.7	819	57.7	2,276	83	65.6
Missouri-Pacific 1939	14,331	22,731	37,062	2.3	33,921	1,916	770	25.2	829	51.1	4,296	111	85.4
1938	15,541	19,174	34,715	2.5	33,479	1,867	727	24.4	776	50.2	3,846	112	79.4
Texas & Pacific.....1939	2,640	5,935	8,575	1.2	33,334	1,960	726	22.9	799	54.7	3,428	87	54.3
1938	3,223	5,319	8,542	2.3	32,206	1,960	696	22.2	758	55.0	3,222	83	53.2
St. Louis-San Francisco....1939	12,151	6,608	18,759	3.4	26,621	1,348	536	24.7	709	45.5	2,836	123	80.0
1938	15,880	4,944	20,824	6.7	25,857	1,335	521	24.3	562	37.0	2,469	124	63.5
St. Louis Southw. Lines...1939	1,771	4,043	5,814	2.4	31,168	1,676	656	22.3	972	62.0	3,352	87	82.9
1938	2,403	2,719	5,122	3.9	30,072	1,719	641	21.6	961	66.4	3,068	89	72.6
Texas & New Orleans.....1939	5,246	11,138	16,384	4.0	28,861	1,578	639	24.8	767	45.4	2,870	86	78.7
1938	6,649	10,824	17,473	4.7	26,954	1,522	579	22.5	604	40.6	2,366	89	69.9



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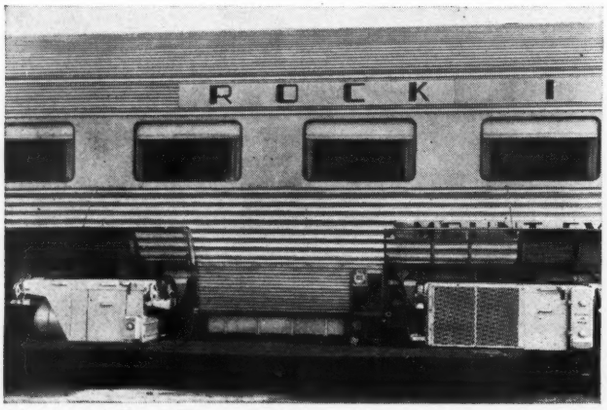
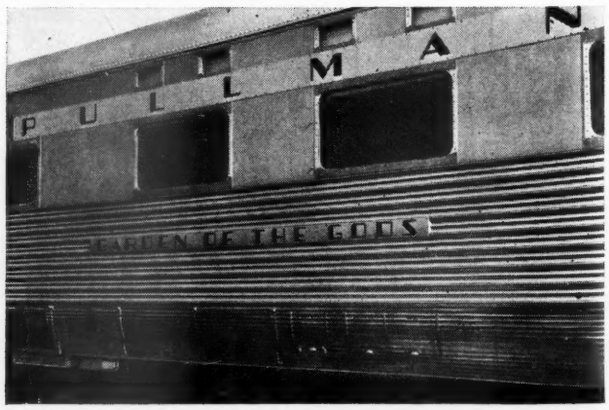


Waukesha Twin Units—withdrawn for maintenance inspection. From right to left—Engine-Generator; Sub-Cooler and Ice Engine.



Cushion-mounted Ice Engine, in normal operating position, on Pullman car of Rocket. Engine-Generator (not shown) is on opposite side of car.

Refrigeration Division **WAUKESHA MOTOR COMPANY** Waukesha, Wisconsin